ᓄᓇᕗᑦ ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᑲᑎᒪᔨᖏᑦ

ᑲᑎᒪᒃᑐᑎᒃᓴᑦ: ᑲᑎᒪᕕᒃᓴᖓᑦ ᑲᑎᒪᓂᖅ 003-2020

ᓯᑎᐱᕆ 2, 2020

ᐆᒪᔪᓕᕆᔩᑦᔪᐊᑦ ᑲᑎᒪᔨᖏᑦ Zoom-ᒥᒃ ᐊᑐᕐᓗᑎᒃ ᑲᑎᒪᓂᖓᑦ

	ᓇᒻᒪ:	**ᑲᑎᒪᒃᑐᑎᒃᓴᖅ:**	**Tab:**	**ᐅᖃᓪᓚᒃᑐᖅ:**	**ᐊᑯᓂᐅᓂᖓ**
9:00 AM – 9:05 AM	1	ᒪᑐᐃᖅᓯᓂᖅ ᑲᑎᒪᓂᕐᒥᒃ		ᐃᒃᓯᕙᐅᑕᖅ	5 ᒥᓂᑦᓯ
9:05 AM - 9:10 AM	2	ᓇᓗᓇᐃᖅᓯᓂᖅ ᐃᒻᒥᒧᑦ ᐊᒃᑐᐊᓕᐊᓂᕐᒧᑦ ᐊᙳᐊᕈᑎᖃᕐᓂᕐᒧᑦ		ᐃᒃᓯᕙᐅᑕᖅ	5 ᒥᓂᑦᓯ
9:10 AM - 9:15 AM	3	ᕿᒥᕐᕈᔭᐅᓂᖏᑦ ᐊᖏᖅᑕᐅᓂᖏᓪᓗ ᑲᑎᒪᒃᑐᑎᒃᓴᑦ	1	ᐃᒃᓯᕙᐅᑕᖅ	5 ᒥᓂᑦᓯ
		ᐱᓕᕆᕝᕙᖓᑦ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ - ᓄᓇᕗᑦ ᒐᕙᒪᒃᑯᖏᑦ (GN-DOE)			
9:15 AM - 10:00 AM	4	ᑕᓯᐅᔾᕐᔪᐊᑉ ᓂᒋᐊᓂ ᓇᓄᓕᒃᓴᑦ ᑲᑎᙵᔪᑦ ᐆᒪᔪᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᑭᓪᓕᖓ (ᐃᓱᒪᓕᐅᕈᑎᒃᓴᖅ)	2	GN-DOE	45 ᒥᓂᑦᓯ
10:00 AM - 10:15 AM		**ᕿᑲᑲᐃᓐᓇᖅ**			15 ᒥᓂᑦᓯ
		ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ (DFO)			
10:15 AM - 10:45 AM	5	ᑲᑎᙵᔪᑦ ᖃᓕᕋᓕᒃᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓂᖏᑦ ᑐᓂᐅᖅᑲᖅᑕᐅᓂᖏᑦ ᖃᓕᓇᓕᖕᓂᐊᕐᒃᓴᑦ 0-ᒥ ᐊᕿᒍᐊᓂ 2021 ᐊᒻᒪᓗ 2022 ᐃᖃᓪᓕᐊᕐᓇᕐᒥ (ᐃᓱᒪᓕᐅᕈᑎᒃᓴᖅ)	3	ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ	30 ᒥᓂᑦᓯ
10:45 AM - 11:15 AM	6	ᐱᓕᕆᕝᕙᖓᑦ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ - ᐊᐅᓚᔾᔪᑎᖏᓐᓄᑦ ᑐᓴᒐᒃᓴᑦ (ᑐᓴᒐᒃᓴᑐᐃᓐᓇᖅ)	4	ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ	30 ᒥᓂᑦᓯ
11:15 AM - 11:45 AM	7	ᑐᓴᒐᒃᓴᖅ ᖃᓄᐃᓕᖓᓕᕐᒪᖔᑦ ᐅᑭᐅᖅᑕᖅᑐᕐᒥ ᐃᖃᓪᓕᐊᕐᓂᖅ ᐊᑑᒍᑦ ᒥᐊᓕᒐ ᐃᒪᕐᒥᐅᑕᓕᕆᓂᕐᒧᑦ ᓴᐳᒻᒥᐅᓯᖅᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᐱᕐᑯᔭᕐᔪᐊᖅ ᒪᓕᒐᖏᑦ ᑲᓇᑕᐅᑉ ᓯᓚᑖᓂᙳᖅᑐᓄᑦ (ᑐᓴᒐᒃᓴᖅ)	5	ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ	30 ᒥᓂᑦᓯ
11:45 AM - 1:15 PM		**ᐅᓪᓗᕈᓪᒥᑕᕐᓇᖅ**			1 hr 30 ᒥᓂᑦᓯ
		ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᖓᓄᑦ ᑲᓇᑕᒥ (ECCC)			
1:15 PM - 1:45 PM	8	ᑲᓇᑕᓕᒫᒥ ᐱᐅᓯᐅᔪᖅ ᐊᖅᑭᒃᓱᖅᑕᐅᑎᓪᓗᒋᑦ ᐆᒪᔪᑦ ᐃᓄᐃᓴᓗᐊᓕᖅᑐᑦ ᐱᐅᖅᓱᐊᖅᑕᐅᓂᖏᓐᓄᑦ (ECCC) (ᑐᓴᒐᒃᓴᖅ)	6	ECCC	30 ᒥᓂᑦᓯ
1:45 PM - 1:50 PM	9	ᓄᖅᑲᕐᓂᖅ		ᐃᒃᓯᕙᐅᑕᖅ	5 ᒥᓂᑦᓯ

ᓄᓇᕗᑦ Nunavut

Forêts, Faune et Parcs Québec

Environment and Climate Change Canada / Environnement et Changement climatique Canada

ᐊᐅᒍᓯ 7, 2020

ᒥᔅᑕ. ᑖᓂᐊᓕ ᓯᐅᓴᒃ
ᐃᒃᓯᕙᐅᑕᖅ
ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ
ᑎᑎᖅᑲᕐᓂᐊᕐᕕᖓ 1379
ᐃᖃᓗᐃᑦ, ᓄᓇᕘᑦ X0A 0H0

ᒥᔅᑕ. ᒍᐊᑕᓐ ᕙᓛᒃᐃᓐᑦ
ᐃᒃᓯᕙᐅᑕᖅ
ᐋᔨ ᐃᒪᕕᖕᒥ ᐊᕕᒃᑐᖅᓯᒪᓂᕐᒥ ᐆᒪᔪᓕᕆᓂᕐᒥ ᑲᑎᒪᔩᑦ
ᑎᑎᖃᕐᓂᐊᕐᕕᖓ 580
4 ᓯᐱ ᐊᐃᓴᐃᔭ ᓴᓪᑦ ᕈᐅᑦ
ᐅᐊᔅᑲᒪᓂᔅ ᑯᐱᒃ J0M 1R0

ᒥᔅᑕ. ᕿᐸᑦ ᒧᔅᓯᓐᑯ
ᐃᒃᓯᕙᐅᑕᖅ
ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ
ᑎᑎᖅᑲᕐᓂᐊᕐᕕᖓ 433
ᐃᓄᒃᔪᐊᖅ, ᑯᐱᒃ J0M 1M0

ᒥᔅᑕ, ᓰᕆ ᑐᕋᒡᕙᓕᐃ
ᐃᒃᓯᕙᐅᑕᖅ
ᐊᖑᓇᓱᐊᕐᓂᕐᒥ, ᐃᖃᓗᓯᐅᕐᓂᕐᒥ ᐊᒻᒪ ᒥᕆᐊᖅᑲᕐᓂᕐᒥ
ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔨᕋᓛᒃ
1080, ᐲᕙᕐ H ᐊᓪ, ᐊᒃᓚᕝᕕᒃ 1420
ᒫᓐᑐᕆᐊᓪ ᑯᐱᒃ H2Z 1S

ᐱᔾᔪᑎᖓ: ᐱᔭᐅᔪᓐᓇᖅᑎᑕᐅᔪᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᓐᓇᖅᑎᑕᐅᓗᑎᒃ/ᐱᔭᐅᔪᓐᓇᕐᑯᔭᐅᔪᓄᑦ ᐊᑐᓕᕐᑯᔾᔪᑎᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ ᓇᓄᖏᑕ ᐊᒥᓲᓂᒃᑲᓂᖏᓐᓂ

ᐅᑯᓄᖓ ᐃᒃᓯᕙᐅᑕᕐᓄᑦ,

ᐊᐅᓚᑦᑎᓂᕐᒥ ᐱᔪᓐᓇᕐᓂᖅ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ (SH) ᓇᓄᐃᑦ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ ᐱᖃᖅᑎᕆᒍᑕᐅᖓᑕ ᑲᒥᕗᐅᓪᓗᑎᒃ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᓐᓂᑦ, ᑯᐱᐊᒃ, ᐊᓐᑎᐅᕆᔪ ᐊᒻᒪᓗ ᑲᓇᑕᒥ, ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᐆᒪᔪᓕᕆᓂᕐᒥ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪᓗ ᐅᖃᐅᔾᔨᒋᐊᖅᑎᑦ ᑲᑎᒪᔨᖏᑦ ᐃᒃᓯᕙᐅᑕᐅᕕᒋᔭᑎᑦ (ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ [NWMB], ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ [NMRWB], ᐋᔨ ᐃᒪᕕᖕᒥ ᐊᕕᒃᑐᖅᓯᒪᓂᕐᒥ ᐆᒪᔪᓕᕆᓂᕐᒥ ᑲᑎᒪᔩᑦ [EMRWB], ᐊᒻᒪᓗ ᐊᖑᓇᓱᐊᕐᓂᕐᒥ, ᐃᖃᓗᓯᐅᕐᓂᕐᒥ ᒥᕆᐊᖅᑲᕐᓂᕐᒥᓪᓗ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔨᕋᓛᑦ [HFTCC]).

ᐱᔭᐅᔪᓐᓇᖅᑎᑕᐅᔪᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᓐᓇᖅᑎᑕᐅᓗᑎᒃ/ᐱᔭᐅᔪᑦ ᑭᒡᓕᖏᑦ ᑕᐃᒃᑯᐊ ᒫᓇ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ (SH) ᓇᓄᐃᑦ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ ᑐᙵᕕᖃᕐᒪᑕ ᐊᒥᒐᖏᓐᓂᖏᑕ ᒥᒃᓴᐅᓴᒃᑕᐅᔾᔪᑎᖏᓐᓂᑦ ᖃᖓᑕᓱᒃᑯᑦ ᖃᐅᔨᓇᓱᐊᖅᓯᓂᖅ ᐱᓕᕆᐊᖑᓚᐅᖅᓯᒪᔪᖅ 2011−ᒥ ᐊᒻᒪᓗ 2012−ᒥ ᑖᒃᑯᐊᓗ ᒫᓐᓇ ᐊᖑᒪᑎᔪᓐᓃᕐᒪᑕ. ᑖᓐᓇ ᐊᒥᒐᖏᓐᓂᖏᑕ ᒥᒃᓴᐅᓴᒃᑕᐅᔾᔪᑎᖓ ᑭᖑᕝᕕᖅᑕᐅᓯᒪᓕᕐᒪᑦ ᐊᒥᒐᖏᓐᓂᖏᑕ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᓂᖏᓐᓄᑦ ᐱᔭᐅᓯᒪᔪᓂᑦ ᖃᖓᑕᓱᒃᑯᑦ ᖃᐅᔨᓇᓱᐊᖅᓯᓂᖅ ᐱᓕᕆᐊᖑᓚᐅᖅᓯᒪᔪᖅ 2016−ᒥ, ᑕᒪᓐᓇᓗ ᒪᓕᒃᑕᐅᕐᑯᔭᐊᔪᒃᑯᕐᓗᑎᒃ ᐊᖏᖅᑕᐅᓚᐅᕐᒪᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐱᔪᓐᓇᕐᓂᓪᓂᖓᑦ ᒪᐃ 2018−ᒥ. ᐃᓚᒋᔭᐅᓗᓂ, ᓄᑖᑦ ᖃᐅᔨᓇᓯᐊᕐᓂᕐᒧᑦ ᖃᐅᔨᒪᔪᑎᒃᓴᐃᑦ ᐊᒻᒪᓗ ᓄᑖᑦ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᓄᑦ ᖃᐅᔨᒪᓂᑦ ᑐᓴᐅᒪᔾᔪᑎᒃᓴᐃᑦ ᓄᐊᑕᐅᓚᐅᕐᒪᑕ ᑕᐃᒪᙵᓂᑦ ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᑭᒡᓕᒋᑎᑕᐅᔪᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᓚᐅᖅᑎᓪᓗᒋᑦ.

ᑎᒥᖑᖅᑎᑕᐅᓯᒪᔪᖅ ᐊᒻᒪᓗ ᐋᖅᑭᒃᓱᖅᑕᐅᓯᒪᓪᓗᓂ ᐃᓱᒪᓕᐅᕈᑎᖃᕐᓂᑦ ᐊᒃᓲᓂᖅᐸᖅ ᐱᒻᒪᕆᐅᖓᑕ ᑕᒪᓐᓇᐅᑎᓪᓗᒍ ᐱᔭᕆᐊᑐᔪᐋᓗᓂᖓ, ᐱᓕᕆᔪᓐᓇᕐᓂᖃᕐᑎᒡᕕᐅᔪᓂᒃ ᐱᓕᕆᕖᑦᑲᕐᓂᖅ ᑕᒪᑕᒧᖓ ᐊᐃᓚᑦᑎᓂᕐᒧᑦ ᑖᒃᑯᓂᖓ ᐊᒥᓲᓂᒃᑲᓂᐅᔪᓂᑦ. ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ−ᐊᕙᑎᓕᕆᔩᒃᑯᑦ, ᑯᐱᐊᒃ ᒐᕙᒪᖏᑦ, ᐊᒻᒪᓗ ᑲᓇᑕᐅᑉ ᒐᕙᒪᑐᖅᑲᒃᑯᑦ ᑐᒃᓯᕋᒃᐸᑦ ᑖᒃᑯᐊ ᐱᖓᓱᑦ ᑲᑎᒪᔩᑦ/ᐊᖑᓇᓱᐊᕐᓂᕐᒥ, ᐃᖃᓗᓯᐅᕐᓂᕐᒥ ᒥᕆᐊᖅᑲᕐᓂᕐᒥᓪᓗ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔨᕋᓛᑦ (HFTCC) ᖃᐅᔨᓴᖅᓯᒃᑲᓂᕐᓗᓂ ᐊᒥᓲᓂᖏᑦ ᐱᔭᐅᔪᓐᓇᖅᑎᑕᐅᔪᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᓐᓇᕐᓗᑎᒃ/ᐱᔭᐅᔪᑦ ᑭᒡᓕᖏᓐᓂᑦ, ᑕᒪᒃᑯᓇᓂ ᐃᒪᓐᓇᐃᑦᑐᑦ ᑭᒡᓕᖅᑎᑕᐅᔪᑦ ᐱᑕᖅᑎᑕᐅᕕᖏᑦ (ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ [NWMB], ᓄᓇᕕᒃ ᐃᒪᕕᐅᖓᓂ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ [NMRWB], ᓄᓇᕕᒃ ᐃᒪᕕᐅᖓᓂ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ [NMRWB]/ᐋᔨ ᐃᒪᕕᖕᒥ ᐊᕕᒃᑐᖅᓯᒪᓂᕐᒥ ᐆᒪᔪᓕᕆᓂᕐᒥ ᑲᑎᒪᔩᑦ [EMRWB]

ᖃᓐᖏᖃᑦᑕᐅᑎᓯᒪᓂᖏᓐᓄᑦ ᓇᕗᖅᐸᒃᑕᖏᓐᓂ), ᐊᒻᒪᓗ ᐃᓱᒪᓕᐅᕈᑎᖃᕐᓗᓂ ᐅᕝᕙᓗᓂᑦ ᐊᑐᓕᕐᑯᕗᓗᓂ ᐊᒥᓲᓂᖏᑦ ᐱᓯᐅᖕᓇᖅᑎᑕᐅᖕᑦ ᐊᖑᓇᓱᒃᑕᐅᖕᓇᕐᓗᑎᒃ/ᐱᓯᐅᖕᑦ ᑉᓕᖃᒃᑎᑕᐅᓂᖏᓐᓂᑦ ᑕᐅᕙᓂ ᒫᓇ ᐱᑕᖃᙱᓗᐊᕐᓂᖏᓐᓂ (ᐋᖕ ᐃᒪᕕᖕᒥ ᐊᕕᒃᑐᖅᓯᒪᓂᕐᒥ ᐆᒪᖕᓕᕆᓂᕐᒥ ᑲᑎᒪᔨᑦ [EMRWB], ᐊᖑᓇᓱᕐᓂᕐᒥ, ᐃᖃᓗᒐᓱᐊᕐᓂᕐᒥ ᒥᕿᑎᐊᖃᕐᓂᕐᒥᓪᓗ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔨᕋᓛᑦ [HFTCC]).

ᓄᓇᕗᑦ ᒐᕙᒪᒃᑯᑦ-ᐊᕙᑎᓕᕆᔨᒃᑯᑦ, ᑯᐱᐊᒃ ᒐᕙᒪᖏᑦ, ᐊᒻᒪᓗ ᑲᓇᑕᐅᑉ ᒐᕙᒪᑐᖃᒃᑯᑦ ᑕᐅᕗᙱᒃᑲᓂᖅ ᑐᒃᓯᕋᒃᐳᑦ ᑖᒃᑯᐊ ᐱᖓᓱᑦ ᑲᑎᒪᔨᑦ/ᐊᖑᓇᓱᕐᓂᕐᒥ, ᐃᖃᓗᒐᓱᐊᕐᓂᕐᒥ ᒥᕿᑎᐊᖃᕐᓂᕐᒥᓪᓗ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔨᕋᓛᑦ (HFTCC) ᐱᓕᕆᕐᑯᓪᓗᒋᑦ ᐱᓕᕆᓂᐅᖃᑦᑕᕆᐊᓕᖕᓂᑦ ᐊᐅᓚᑕᐅᓗᑎᒃ ᐱᓕᕆᐊᖑᒐᔅᓗᑎᒃ, ᓲᕐᓗ ᑕᒪᒃᑯᐊ ᐊᖑᓇᓱᐊᕐᓂᕐᒥ/ᐱᓯᐅᖕᑦ ᓯᓚᑖᓂᑦ ᐃᓕᑦᓯ ᐱᖕᓇᕐᓂᖃᕐᕕᒋᔭᑦᓯᓐᓂᑦ (ᐱᖃᓯᐅᑎᓗᒋᑦ ᐱᓯᐅᖕᑦ ᐊᓐᑎᐅᕆᖕᒥ) ᐃᓱᒪᒋᔭᐅᕐᑯᓗᒋᑦ ᐱᓯᐅᓚᕆᓕᕐᑯᓗᒋᑦ ᐊᒥᓲᓂᖏᑦ ᓇᓐᓄᒃᑕᐅᖕᑦ ᓇᓄᐃᑦ ᒪᓕᒃᓯᒪᑦᑎᐊᕐᑯᓗᒋᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᖕᒪᖕᓂᑦ ᐊᒻᒪᓗ ᓱᕐᕋᖏᑎᑦᑎᖕᓇᕐᓗᑎᒃ ᐊᒥᓲᓂᒃᑲᓂᖏᑕ ᖃᑦᓯᐅᓂᖏᓐᓂᑦ.

ᐃᑲᔪᖅᓱᖅᑕᐅᕐᑯᓪᓗᒋᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᕐᓂᕆᔭᔨ, ᑕᑯᓂᐊᖅᑕᑎᑦ ᑐᕚᑎᒋᔭᐅᖃᓯᐅᑎᓯᒪᖕᑦ ᐱᓯᐅᑎᑦᑎᕗᑦ (ᑕᒪᒃᑮᖕᓂᑦ-ᐅᓂᒃᑳᓕᐊᖑᓯᒪᖕᓂᑦ ᖃᓪᓗᓈᑎᑑᖓᓪᓗᑎᒃ, ᐊᖓᖕᖃᐅᑎᑦ ᓇᐃᓈᖅᓯᔾᖕᑎᖏᑦ ᐃᓄᒃᑎᑑᖓᓪᓗᑎᒃ-ᓄᓇᕕᒃ ᐅᖃᓪᓚᒍᓯᖏᑎᑐᑦ, ᐃᓄᒃᑎᑐᑦ-ᓄᓇᕕᒃ ᐅᖃᓪᓚᒍᓯᖏᑎᑐᑦ, ᐅᐃᕖᑎᑐᑦ ᐊᒻᒪᓗ ᖃᓪᓗᓈᑎᑐᑦ):

1. ᖃᐅᔨᓴᖅᑕᐅᒃᑲᓂᕈᑎᖏᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ SH ᓇᓄᐃᑦ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ (ᑕᐃᔭᐅᓂᐊᓕᕐᓗᓂ, **ᐊᒥᓲᓂᒃᑲᓂᖏᑕ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ)**

2. ᐊᓯᑯᑐᐃᓐᓇᕆᐊᓕᒃ ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᕐᑯᒃᓴᓇᕐᓂᕐᒥᑦ ᖃᐅᔨᓴᖅᓯᓂᖅ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ ᓇᓄᖏᑕ ᐊᒥᓲᓂᒃᑲᓂᖏᓐᓂ (ᑕᐃᔭᐅᓂᐊᓕᕐᓗᓂ, **ᐊᖑᓇᓱᐊᖅᑕᐅᓂᖏᑕ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ)**

3. ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ ᓇᓄᐃᑦ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ ᐊᖑᓇᓱᒃᑕᐅᖕᑦ ᖃᐅᔨᓇᓱᐊᖅᑕᐅᒃᑲᓂᕐᓂᖏᑦ: ᐊᐱᖅᓱᕆᐊᖅᑐᖅᓯᒪᓂᕐᒥᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ (ᑕᐃᔭᐅᓂᐊᓕᕐᓗᓂ, **ᐊᐱᖅᓱᕆᐊᖅᑐᖅᓯᒪᓂᕐᒥᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ)**

ᐅᓄᕐᓂᕆᔭᐅᒃᑲᓂᖅᑐᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ

ᐊᒥᓲᓂᒃᑲᓂᖏᑕ ᖃᓄᐃᓕᖓᓕᕐᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᓚᐅᕐᒪᑕ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓗᐊᓗᐃᓗᐊᓂ ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᓕᑦ ᐃᖃᓇᐃᔭᖃᑎᒌᒃᑐᑦ ᑲᑎᑕᐅᓯᒪᖕᓂᑦ (ᑕᐃᔭᐅᓂᐊᓕᕐᓗᓂ ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᓕᑦ ᐃᖃᓇᐃᔭᖃᑎᒌᒃᑐᑦ ᑲᑎᑕᐅᓯᒪᖕᓂᑦ) ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓪᓗᑎᒃ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑎᑦ ᑲᑎᒪᔨᕋᓛᖏᓐᓄᑦ (ᑕᐃᔭᐅᓂᐊᓕᕐᓗᓂ ᐅᖃᐅᔾᔨᒋᐊᖅᑎᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ) ᓯᑎᐱᕆ 2019-ᒥ. ᐱᖃᓯᐅᔾᔨᖕᒪᑕ ᑐᓴᐅᒪᔾᔪᑎᒃᓴᓂᒃ ᑕᒪᒃᑯᓂᖕᖓ ᒫᓇ ᐊᒻᒪᓗ ᑕᐃᑦᓯᒪᓂᓕᓴᕐᓂᑦ ᐊᒥᒐᖏᓐᓂᕆᔭᐅᓚᐅᑐᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓂᕆᓚᐅᖅᑕᖏᓐᓂᑦ, ᒪᓐᓇᓕᓴᐃᑦ ᐊᒻᒪᓗ ᑕᐃᑦᓯᒪᓂᓕᓴᐃᑦ ᐊᖑᓇᓱᐊᖅᑕᐅᓂᖏᑦ ᐊᒥᓲᓂᕆᓚᐅᖅᑕᖏᑦ, ᓄᓇᖃᖅᑳᖅᓯᒪᖕᑦ ᖃᐅᔾᒪᓂᖏᑦ ᖃᐅᔾᔨᓇᓱᐊᕐᓂᑦ, ᐊᒻᒪᓗ ᖃᐅᔾᔨᓇᓱᐊᑎᓂᑦ ᖃᐅᔾᔨᓇᓱᐊᕐᓂᑦ ᐱᔪᓐᓂᒃᑕᐅᓚᐅᖅᑐᑦ ᑕᒪᑯᓇᓂ ᐊᒥᓲᓂᒃᑲᓂᐅᖕᓂ.

ᐊᖑᓇᓱᐊᖅᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ

ᐊᖑᓇᓱᐊᖅᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᖕᑦ ᐋᖅᑭᒃᓱᖅᑕᐅᓚᐅᕐᒪᑕ ᓇᓄᐃᑦ ᐊᒥᓲᓂᖏᑦ-ᖃᐅᔨᒪᔾᔪᑎᓕᐅᖅᑕᐅᓯᒪᓗᑎᒃ ᐃᖃᓇᐃᔭᖅᑎᓚᕆᖕᒧᑦ, ᔫᒃᑕᖅ. ᐃᐅᕆᒃ ᕆᒋᕐ (ᓯᓚᑦᑐᖅᓴᕐᕕᖕᐊᓪᓚᓂ ᐅᐊᔾᔨᖕᑕ), ᐅᑯᓇᙵᑦ ᐱᓕᕆᕐᑯᔭᐅᓯᒪᓪᓗᑎᒃ ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᓕᖕᓂᑦ ᐃᖃᓇᐃᔭᖃᑎᒌᒃᑐᑦ ᑲᑎᑕᐅᓯᒪᖕᓂᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓪᓗᑎᒃ ᐅᖃᐅᔾᔨᒋᐊᖅᑎᑦ ᑲᑎᒪᔨᕋᙰᖏᓐᓄᑦ ᔪᓂ 2019-ᒥ. ᖃᐅᔨᓴᖅᓯᖕᒪᑕ ᓴᕿᑎᑕᐅᓯᒪᖕᑦ ᐊᓯᑯᕐᓂᖏᓐᓂᑦ ᓇᓄᐃᑦ ᐊᒥᒐᖏᓐᓂᖏᑦ ᖃᓄᑎᒋᐅᓂᖏᑎᒍ ᓇᓐᓄᒃᑕᐅᖕᑦ ᑕᐃᒫᖑᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᑎᒎᖅᑕᐅᓗᑎᒃ. ᐃᒪᐃᓘᕈᑕᐅᓇᓱᐊᕐᒪᑕ ᑖᒃᑯᐊ

Nunavut ᓄᓇᕗᑦ

Forêts, Faune et Parcs Québec

Environment and Climate Change Canada / Environnement et Changement climatique Canada

ᐊᖑᓇᓱᐊᖅᑕᐅᓂᖏᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᖅᓯᒪᔪᑦ ᐱᓕᕆᔾᔪᑎᖃᕈᓐᓇᖅᓯᑎᑦᑎᔪᑕᐅᓇᓱᐊᕐᒪᑦ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᑦ ᐱᔪᓐᓇᐅᑎᓂᒃ ᑎᒍᐊᖅᑎᓄᑦ ᐊᒻᒪᓗ ᐊᐅᓚᑦᑎᓂᕐᒥ ᐱᔪᓐᓇᕐᓂᓛᑦ ᐊᑐᕈᓐᓇᖅᓯᑰᓯᑦ ᐊᑦᔨᒌᓐᓂᖅᓯᐅᑎᓪᓗᑎᒃ ᐃᒫᒡᒐᓯᒻᒎᕐᓂᖏᓐᓂᑦ ᖃᓄᐃᓚᖓᔪᕐᓂᖏᑦ ᓇᓄᒃᑕᐅᔪᑦ ᑎᑭᐅᒪᔭᖏᓐᓂ ᐊᔾᔨᒌᖏᑦᑐᑦ ᐊᒃᓱᐊᓗᕐᓂᖏᑦ, ᐃᓚᒋᓕᐅᑎᔭᐅᓗᑎᒡᓗ ᓇᓗᓇᕐᓂᖏᑦ ᓇᓄᐃᑦ ᖃᓄᐃᓕᖓᓂᖓᔪᖏᓛᑦ ᓯᕗᓂᖓᑦᑎᓐᓂ ᐊᕙᑎᖓᑦ ᐊᓯᔾᔨᑎᓪᓗᒍ.

ᐊᐱᖅᓱᐊᖅᑐᖅᓯᒪᓂᕐᒥᑦ ᐅᓂᒃᑳᖅᓯᒪᔪᑦ

ᐊᐱᖅᓱᐊᖅᑐᖅᓯᒪᓂᕐᒥᑦ ᐅᓂᒃᑳᖅᓯᒪᔪᑦ ᐱᔭᕇᒃᑕᐅᓚᐅᕐᒪᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ ᐊᐱᖅᓱᖅᓂᕐᒥᒃ ᐃᖃᓇᐃᔭᓕᑦ ᑲᑎᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐊᖏᖅᑕᐅᓗᑎᒃ ᐅᖃᐅᓯᔦᕆᐊᖅᑎᑦ ᑲᑎᒪᔨᕋᓛᖏᓐᓂᑦ ᔫᓂ 2020−ᒥ. ᓇᐃᓈᖅᑕᐅᓕᖅᑎᑦᑎᒪᑦ ᓴᕿᑕᐅᓂᖏᓐᓂᑦ ᓄᓇᓕᑦ ᐱᓕᕆᖃᑕᐅᓂᖏᓐᓂᑦ ᒪᓕᒐᓕᐅᕐᓗᑎᒃ ᐱᓕᕆᐊᖑᓚᐅᖅᑐᓂᑦ ᐊᑐᖅᑎᓪᓗᒍ ᐅᑭᐅᖓ 2019-2020 ᐊᒻᒪᓗ ᐊᑐᖅᐸᒃᑐᑦ−ᐊᑐᖃᑎᒌᒃᑐᑦ ᑲᑎᒪᑎᓪᓗᑎᑦ ᒪᓐᑐᕆᐊᓕᒥ ᕕᕝᕗᐊᕆ 25-26, 2020−ᒥ.

ᐃᓱᒪᓕᐅᕈᑕᐅᓇᓱᒍᐊᙳᐊᖅᑐᖅ

<u>ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᖃᓄᐃᓕᖓᓂᖏᑦ</u>

- **ᑲᓇᑕᐅᑉ ᓇᓄᖏᑦ ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᑲᑎᒪᔨᕋᓛᑦ (PBTC) ᖃᐅᔨᓴᖅᓯᓚᐅᕐᒪᑦ ᒫᓇᕋᑖᖅ ᖃᓄᐃᓕᕙᓕᐊᓂᖏᓐᓂᑦ ᐊᒥᒐᖏᓐᓂᖏᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ SH ᓇᓄᖏᑦ ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᐃᒫᖑᑐᐃᓐᓇᕆᐊᖃᕐᓂᖏᓐᓂᑦ "ᖃᑦᔫᓇᕈᒃᐸᓪᓕᐊᕗᖅᑎᓪᓗᒋᑦ" ᑐᙵᕕᒥᓪᓗᒋᑦ ᖃᐅᔨᓇᓱᐊᕐᓂᖑᑦ ᖃᐅᔨᒪᔾᔪᑎᖃᑦ.** ᓇᓄᖏᑦ ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᑲᑎᒪᔨᕋᓛᑦ (PBTC) ᖃᐅᔨᓴᖅᓯᓂᖏᑦ ᑐᙵᕕᖃᓚᐅᕐᒪᑦ ᖃᑦᓯᒃᑲᓪᓚᓂᖏᓐᓂᑦ ᖃᓄᐃᓕᖓᓂᕆᔭᐅᔪᓐᓇᖅᑐᓂᑦ. ᑕᒪᒃᑯᐊ ᐱᖃᓯᐅᔾᔨᕗᑦ 17% ᐳᓴᓐᑎᒃ ᖃᑦᔫᓇᕈᒃᑲᓂᕐᓂᖏᓐᓂᑦ ᑎᑎᖅᑎᒍᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓪᓗᑎᒃ ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᐊᑯᓐᓂᖏᓐᓂ 2011-2012 ᖃᙵᑕᓱᒃᑯᑦ ᖃᐅᔾᔭᓇᓱᐊᖅᓯᓂᖅ (943 ᓇᓄᐃᑦ, 95% ᐳᓴᓐᑎᑦ ᖁᓚᕐᓇᖏᓐᓂᖓᓂ: 658-1350) ᐊᒻᒪᓗ 2016 ᖃᙵᑕᓱᒃᑯᑦ ᖃᐅᔾᔭᓇᓱᐊᕐᓂᖅ (780 ᓇᓄᐃᑦ, 95% ᐳᓴᓐᑎᑦ ᖁᓚᕐᓇᖏᓐᓂᖓᓂ: 590-1029) ᐊᒻᒪᓗ ᐊᑕᐅᑦᑎᒃᑯᖃᐅᑕᓪᓗᓂ ᐱᐅᓗᐊᕈᓐᓃᕐᓂᕆᓚᐅᖅᑕᖏᑦ ᓇᓄᐃᑦ ᑎᒥᖏᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ, ᕿᑐᙵᕆᐅᕈᓐᓇᕐᓂᖏᑦ ᐊᒻᒪᓗ ᐆᒪᒍᑖᖃᑦᑕᕐᓂᖏᑦ ᑕᒪᑐᒧᙵᙵᓗᑎᒃ ᐊᑯᓂ−ᑕᐅᕗᙵᑐᖅ ᐃᒪᕕᐅᑉ ᓯᑯᙵᑕ ᐱᑕᖃᓗᐊᕈᓐᓃᕐᓂᖓᓄᑦ. ᐊᔾᔨᖓᓗᐊᐸᓗᐊ ᖃᑦᔫᓇᕈᕐᓂᖏᑦ ᑎᑎᖅᑎᒍ ᒥᒃᓴᐅᓴᒃᑕᐅᓂᖏᑦ ᐊᒥᓚᖏᓐᓂᖏᓐᓂ ᖃᓂᒋᔭᑦᑎᐊᙱᓂ ᑲᓇᙵᙱᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ (WH) ᓇᓄᐃᑦ ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᐊᑐᖅᑎᓪᓗᒍ ᑕᒪᓇᑦᑕᐃᓐᓇᖅ ᐱᓕᕆᕕᐅᔪᖅ ᐃᓱᒪᒋᔭᐅᓚᐅᕐᒪᑦ ᐃᓚᒃᑳᓂᖏᔫᖅᑎᑕᐅᓗᓂ ᐊᑐᖅᑕᐅᔪᑦ ᖃᐅᔨᒪᔾᔪᑎᖃᑦ ᐃᒫᖑᓂᕋᐃᓚᐅᕐᒪᑦ ᐊᖏᔪᐋᓗᒃ ᐆᒪᖃᑎᒋᕕᐅᔪᖅ ᐊᓯᐅᕐᓂᖓ ᐊᑐᖅᐸᓪᓕᐊᖅᑰᓕᕐᒪᑦ. ᑕᒃᑭᓕᒫᕐᓗᒋᑦ ᑕᒪᒃᑯᐊ ᖃᓄᐃᓕᖓᓂᐅᔭᐅᓇᖅᑐᑦ ᑭᒡᒐᖅᑐᐃᖓᒪᑦ ᐊᑐᖅᑕᐅᔭᐅᓇᑐᐃᓐᓇᓄᐊᓕᖏᑦ ᓅᖑᑕᐅᑎᑦᑎᑦᑕᐃᓕᒪᓂᕐᑦ ᐅᓯᒫᑐᑕᐅᔪᓂᑦ ᑕᒪᒃᑯᓄᖓ ᐊᒥᓲᓂᒃᑳᓂᓇᔭᐅᔪᓄᑦ. ᑕᐃᒪᐃᒃᑲᓗᐊᖅᑎᓪᓗᒍ, 95% ᐳᓴᓐᑎᑦ ᓇᓗᓇᕐᑎᐊᕐᓗᑎᒃ ᓇᓪᓕᐊᖕᓄᖕᒋᕋᓱᐊᕐᓂᖏᑦ ᐊᑯᓐᓂᖏᓐᓂ 2011-2012 ᐊᒻᒪᓗ 2016 ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ (SH) ᐊᒥᓚᖏᓐᓂᖏᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓂᖏᑦ ᖃᓪᓕᐅᑎᒃᑦᑕᐅᑎᓯᒪᓪᓚᐅᕐᒪᑦ, ᑕᐃᒃᑯᐊᓗ ᓇᓗᓇᐃᖅᓯᓂᖏᑦ ᖃᓄᑎᒥᐅᓂᖏᓐᓂᑦ ᖃᐅᔨᒪᓇᕈᑎᒃᓴᓕᐊᖑᓯᒪᔪᑦ ᓇᓗᓈᕿᓚᐅᕐᒪᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᓂᖏᑦ.

- **ᓇᓄᖏᑦ ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᖃᕐᓂᖏᓐᓄᑦ ᑲᑎᒪᔨᕋᓛᑦ (PBTC) ᓄᓇᖃᖅᑳᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖏᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᖏᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ (SH) ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᐃᒫᖑᒪᑦ "ᐊᓯᔾᔨᖅᑕᕐᓇᑎᒃ" ᓯᕿᓂᕐᒥᐅᑦ ᐊᒻᒪᓗ "ᐊᒥᓱᕈᒃᑲᓐᓂᖅᓯᒪᓪᓗᑎᒃ" ᑲᓇᙵᙱᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ.** ᖃᐅᔨᓴᖅᓯᓂᖅ ᑐᙵᕕᖃᓚᐅᕐᒪᑦ ᖃᐅᔨᒪᔾᔪᑎᖃᕐᓂᒃ ᐊᒥᓱᒃᑲᓐᓂᖏᑦ ᐅᖃᓕᒫᕆᓪᓗᐊᖑᓯᒪᔪᓂᑦ ᐊᑐᖅᑕᐅᔪᓇᖅᑐᓂᑦ, ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᒫᓇᕋᑖᖅ ᐱᔭᕇᒃᑕᐅᓚᐅᖅᑐᑦ ᐅᓂᒃᑲᓕᐅᖑᓯᒪᔪᓂᑦ ᐅᑯᓇᙳᖓ ᓄᓇᕕᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ. **ᐊᖏᖃᑎᒋᒃᑐᐃᓐᓇᐅᓂᖏᓐᓂ ᑐᑭᓯᓂᖅ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᑦ ᐱᔪᓐᓇᐅᑎᖏᓐᓂᑦ ᑎᒍᒥᐊᖅᑎᑦ ᑕᐃᑦᓱᒪᓂ ᕕᕝᕗᐊᕆ 2020−ᒥ ᐊᑐᖅᐸᒃᑐᑦ−ᐊᑐᖃᑎᒌᒃᑐᑦ ᑲᑎᒪᓂᖓᓂ ᑕᒪᒃᑯᐊ ᓇᓄᐃᑦ ᖃᓂᒪᖃᖏᓐᓂᖏᑦ ᐱᐅᓂᖅᓴᐅᓕᕐᒪᑦ ᑕᑯᒃᓴᐅᑎᑕᐅᓂᖏᓐᓂᑦ ᖃᐅᔨᓇᓱᐊᖅᑎᓂᑦ ᐊᒻᒪᓗ ᐅᓄᕐᓂᖅᓴᐃᑦ ᐃᓄᐃᑦ ᐊᓪᓚᒪᔪᐃᑦ ᐅᓂᒃᑳᑦᑕᖅᓯᒪᓂᖏᑦ ᑕᑯᒃᑲᑦᑕᕐᓂᕋᕐᓗᑎᒃ ᐅᓄᕐᓂᖅᓴᓂᒃ ᓇᓄᐃᓂᑦ ᑕᐃᑦᓱᒪᓂᐅᓚᐅᖅᑐᒥᓂᓪᓗ ᐊᓂᒍᖅᓯᒪᓕᖅᑐᓂᑦ.**

ᒫᓐᓇ ᓇᓐᓄᒐᒃᓴᓄᑦ ᑭᒡᓕᒋᑎᑕᐅᔪᑦ ᐊᒻᒪᓗ ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᔪᑦ ᓇᓐᓄᒃᑖᐅᓯᒪᔪᑦ

- ᒫᓐᓇ ᓇᓐᓄᒐᒃᓴᓄᑦ ᑭᒡᓕᒋᑎᑕᐅᔪᑦ ᑕᐅᕗᖓ ᐅᖅᑯᐊᑕ ᑲᖏᖅᓗᐊᓘᑉ ᐃᓗᐊᓄᑦ (SH) ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᐃᒫᑎᒋᐅᖓᑕ:
  - 25 ᓇᓄᐃᑦ ᐊᕐᕿᒍᑕᒪᑦ ᓄᓇᕗᒻᒥ (ᐋᖅᑭᒃᑕᐅᓚᐅᖅᑐᑦ ᑲᖏᓇᕐᓂᖏᑎᒍᑦ 2:1 ᐊᖑᑎ ᐊᕐᓇᓪᓗᐃᑦ ᓇᓄᑕᐅᔪᓐᓇᕐᓗᑎᒃ; ᐊᑐᖅᑎᓪᓗᒋᑦ 2014/2015 ᐊᒻᒪᓗ 2015/2016 ᓇᓐᓄᒐᓱᐊᕐᓇᖅᓯᑎᓗᒍ ᐅᓄᕐᓂᖏᑦ ᐃᓱᒪᖅᓱᑕᐅᑎᑕᐅᓪᓗᑎᒃ ᖃᑦᓱᓐᓇᕈᓇᐊᖅᑕᐅᓚᐅᕐᒪᑕ 20−ᐅᓕᕐᓗᑎᒃ, ᑭᓱᐊᓂ ᓇᓐᓄᒐᒃᓴᐃᑦ ᐅᑎᖅᑎᑕᐅᓚᐅᕐᒥᔪᑦ 25−ᓄᑦ 2016/2017−ᒥ). ᒪᓐᓇ ᐊᒥᓱᓂᖏᑦ ᐱᔭᐅᔪᓐᓇᖅᑎᑕᐅᔪᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᓐᓇᖅᑎᑕᐅᓗᑎᒃ ᐃᒪᑎᒋᐅᕗᑦ 25 ᐱᖃᓯᐅᔾᔨᔪᓐᓇᕐᓗᑎᒃ ᐊᒥᓲᓚᖃᕐᓗᑎᒃ ᓇᓐᓄᒃᑕᐅᔪᓐᓇᖅᑐᓂᒃ 50% ᐳᓴᓐᑎᓂᒃ ᐊᕐᓇᓪᓗᓐᓂᑦ ᓇᓄᕐᓂᒃ ᑐᙵᕕᒋᓗᒋᑦ 2019−ᒥ ᐃᓱᓕᓕᐅᕈᑕᐅᔪᒥᓅᑦ ᑕᐃᑲᓂ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔾᔪᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ.
  - 23 ᓇᓄᐃᑦ ᐊᕐᕿᒍᑕᒪᑦ ᓄᓇᕕᐅᑉ ᐃᒪᕕᖓᓂ ᐊᒻᒪᓗ "ᐃᓄᐃᑦ ᓇᔪᖅᐸᒃᑕᖏᓐᓂ" ᐊᒻᒪᓗ "ᑲᑐᔾᔭᐅᓗᓂ ᐃᓄᖕᓂᑦ/ᐊᓪᓚᒪᔪᙳᓪᓗ ᓇᔪᖅᑕᐅᓯᓂ" ᓄᓇᕕᒃ ᐃᒪᕕᖓᓂ−ᐃᔾ ᐃᒪᕕᖓᓂ ᖃᓪᓕᖃᑦᑕᐅᑎᓯᒪᖓᑕ ᐱᔪᒪᓂᖃᕐᕕᐅᔪᑦ (ᐋᖅᑭᒃᑕᐅᓯᒪᓪᓗᓂ ᑲᖏᓇᕐᓂᖓᒍᑦ 2:1 ᐊᖑᑎ ᐊᕐᓇᓪᓗᙵᓄᑦ ᓇᓐᓄᒃᑕᐅᔪᓇᕐᓗᑎᒃ; 22 ᓴᓂᕐᕙᒃᑕᐅᓯᒪᔪᑦ ᓄᓇᕕᒃ ᐃᓄᖏᓐᓄᑦ ᐊᒻᒪᓗ 1 ᓴᓂᕐᕙᒃᑕᐅᓯᒪᔪᖅ ᐄᔪ ᐃᔅᑕᔅᐃ ᐊᓪᓚᒪᔪᓄᑦ)
- ᓇᓐᓄᒃᑕᐅᔪᑦ ᐊᓪᓚᒪᔪᙳᓄᑦ ᑕᐅᕙᓂ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ (SH) ᐊᒥᓲᓂᒃᑳᓂᖏᑦ ᐱᔭᐅᓱᖑᕗᑦ ᓴᐳᒻᒥᒍᑎᒃ ᐃᓅᓯᕐᒥᙵᑦ ᐊᒻᒪᓗ ᐱᕐᑯᑎᒥᙵᑦ ᓴᐳᒻᒥᔭᕆᐊᕐᑲᓕᕐᓂᕐᒥᙶᓄᑦ. ᑕᐅᕙᙵᓂᑦ 2011/2012 ᓇᓐᓄᒐᓱᐊᕐᓇᖅᓯᑎᓪᓗᒍ, ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᔪᑦ ᐊᓪᓚᒪᔪᓂᑦ ᓇᓐᓄᒃᑕᐅᔪᑦ ᐃᒫᑎᒋᐅᓚᔪᓕᖅᐳᑦ:
  - 1.1 ᓇᓄᐃᑦ ᐊᕐᕿᒍᑕᒪᑦ ᐄᔪ ᐃᔅᑕᔅᐃ ᐊᓪᓚᒪᔪᓂᑦ ᑯᐱᐊᒃᒥ
  - 1.8 ᓇᓄᐃᑦ ᐊᕐᕿᒍᑕᒪᑦ ᐋᓐᑎᐅᕆᔪ ᐊᓪᓚᒪᔪᖏᓐᓂᑦ
- ᐃᒪᐃᒻᒪᑦ, ᑲᑎᑕᐅᓯᒪᔪᑦ ᐊᕐᕿᒍᑕᒪᑦ ᓇᓐᓄᒐᒃᓴᐃᑦ ᓄᓇᕗᒻᒥ (25) ᐊᒻᒪᓗ ᐃᓄᖏᓐᓂᑦ ᓄᓇᕕᐅᑉ ᐃᒪᕕᖓᓂ (22), ᐃᓚᖃᕐᓗᑎᒃ ᐃᒪᓐᓇᑎᒋᐅᓚᔪᓪᓗᑎᒃ ᐊᕐᕿᒍᑕᒪᑦ ᓇᓐᓄᒃᑕᐅᔪᑦ ᐊᓪᓚᒪᔪᙳᓂᑦ ᑯᐱᐊᒃᒥ (1.1) ᐊᒻᒪᓗ ᐋᓐᑎᐅᕆᔪᒥ (1.8) ᐃᒫᖑᒪᑕ **ᒥᒃᓵᓂᓪᓗᒋᑦ 50 ᓇᓄᐃᑦ ᐊᕐᕿᒍᑕᒪᑦ ᐊᒥᓲᓂᒃᑳᓂᖏᓐᓂ ᑕᒪᒃᑭᓕᒫᕐᓗᒋᑦ.** ᑕᒃᑯᓇᓂ ᐊᑐᖅᑕᐅᕋᑖᓚᐅᖅᑐᓂ 2011-2012 ᐊᒥᒐᖏᓐᓂᖏᑕ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᕗᑦ 943, ᑖᓐᓇ ᓈᓴᐅᓯᓇᐊᖑᓂᖓ ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᔪᓃᑦ ᓇᓐᓄᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐊᒥᓲᓂᖃᕐᓗᑎᒃ ᐃᒫᑎᒋ 5.3% ᐳᓴᓐᑎᓂᒃ. ᑕᐅᕙᓂ ᐊᑐᓚᐅᖅᑐᒥ 2016−ᒥ ᐊᒥᒐᖏᓐᓂᖏᑕ ᒥᒃᓴᐅᓴᒃᑕᐅᔾᔪᑎᖏᑦ 780, ᑖᓐᓇ ᓈᓴᐅᓯᓇᐊᖑᓂᖓ ᓇᓐᓄᒃᑕᐅᖃᑦᑕᖅᑐᓂ ᐊᒥᓲᓂᖃᕐᒪᑦ 6.3% ᐳᓴᓐᑎᐅᓪᓗᓂ.
- ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᐅᓂᒃᑳᓕᐅᕐᒍᓯᒪᓂᖓ ᑎᑭᐅᑎᓯᒪᕗᑦ 100% ᐳᓴᓐᑎᒧᑦ ᓄᓇᕗᒻᒥ, ᒪᑯᐊᓕ ᓄᓇᕕᐅᑉ ᐃᓄᖏᑦ, ᐄᔪ ᐃᔅᑎᓲ ᐊᓪᓚᒪᔪᑦ ᐊᒻᒪᓗ ᐋᓐᑎᐅᕆᔪᒥ ᐊᓪᓚᒪᔪᑦ ᓇᓐᓄᒃᐸᒃᑕᖏᑕ ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᓂᖏᑦ ᐱᔭᕈᒃᑕᐅᓯᒪᖏᒻᒪᑕ. ᐱᑕᖃᒃᑎᓐᓇᒋᑦ ᐱᔭᕆᒃᓯᒪᔪᑦ ᐅᓂᒃᑳᖅᓯᒪᓂᖏᑦ ᐊᒃᓱᐊᓗᒃ ᑕᐃᒪᑦᑎᐊᕈᓐᓃᖅᑎᑦᑎᖓᑕ ᐋᑐᑎᖃᒃᑎᐊᖅᑐᓂᒃ ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒥ. ᐊᑐᓚᐅᒃᑐᑦ ᐊᒥᓱᓂᖏᑦ ᓇᓐᓄᒃᑕᐅᕙᒃᑐᑦ ᐊᒥᓲᓂᖃᕐᒪᑕ 36.4 ᓇᓄᐃᑦ ᐊᕐᕿᒍᑕᒪᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᓯᒪᓂᖏᑦ ᑐᙵᕕᖃᕐᒪᑕ ᖃᐅᔨᒪᔪᑎᒃᓴᓂᑦ ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᔪᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒥ ᐱᔪᓐᓇᕐᓂᓕᖕᓄᑦ ᐊᑐᖅᑎᓪᓗᒋᑦ 5−ᐊᕐᕿᒍᐃᑦ ᐊᑐᕐᓂᖏᑦ ᑎᑭᓐᓇᓱᐊᕐᓂᖓᓂ ᐃᓱᓕᓐᓂᖓᓄᑦ 2017/2018. ᑕᒃᑯᓇᓂ ᐊᑐᖅᑕᐅᕋᑖᓚᐅᖅᑐᓂ 2011-2012 ᐊᒥᒐᖏᓐᓂᖏᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᖓᑕ 943, ᑖᓐᓇ ᓈᓴᐅᓯᓇᐊᖑᓂᖓ ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᔪᓃᑦ ᓇᓐᓄᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐊᒥᓲᓂᖃᕐᓗᑎᒃ ᐃᒫᑎᒋ 3.9% ᐳᓴᓐᑎᓂᒃ. ᑕᒃᑯᓇᓂ ᐊᑐᖅᑕᐅᔪᓂ 2016 ᐊᒥᒐᖏᓐᓂᖏᑦ ᒥᒃᓴᐅᓴᒃᑕᐅᔪᑎᖃᕐᒪᑕ 780, ᑖᓐᓇ ᓈᓴᐅᓯᓇᐊᖑᓂᖓ ᑎᑭᐅᒪᓪᓗᓂ ᐅᓂᒃᑳᓕᐊᕐᒍᓯᒪᔪᓃᑦ ᓇᓐᓄᒃᑕᐅᖃᑦᑕᕐᓂᖏᑦ ᐊᒥᓲᓂᖃᕐᒪᑕ ᐃᒫᑎᒋ 4.7% ᐳᓴᓐᑎᑦ

ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᖑᔪᒪᔪᑦ ᐊᒻᒪᓗ ᓴᓂᕐᕙᒃᑕᐅᓂᖏᑦ ᐊᖑᓇᓱᒃᑕᐅᔪᓇᖅᑐᑦ

- ᓄᓇᓕᖕᓂᑦ ᐱᓕᕆᖃᑎᖃᕐᓗᑎᒃ ᑲᑎᒪᑎᑦᑎᓂᖅ ᐊᒻᒪᓗ ᐊᑐᖅᐸᒃᑐᑦ−ᐊᑐᖃᑎᒋᒃᑐᑦ ᑲᑎᒪᓂᖏᑦ ᑐᑭᓯᓇᖅᓯᑎᑦᑎᓚᐅᕐᒪᑕ ᐃᓱᒪᓗᑕᐅᔪᖃᕐᒪᑦ ᐊᑦᑕᕐᓇᖅᑐᒦᓂᖏᓂᑦ ᐃᓄᐃᑦ ᒫᓐᓇ ᐊᒥᒐᖏᓐᓂᖏᓄᑦ ᓇᓄᐃᑦ ᑕᒫᓂ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᓄᑦ (SH) ᐊᒥᓲᓂᒃᑳᓂᖏᓐᓂ. ᐱᑕᖃᕐᓂᐊᖅᐳᑦ ᐊᑐᓪᓚᕆᖅᑯᒋᑦ ᑕᒪᒃᑯᐊ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖏᑦ (ᐃᓄᐃᑦ

ᐊᓪᓚᒪᔦᐃᓪᓗ) ᐊᑐᖅᑕᑦᑎᐊᕐᓗᑎᒃ ᐱᖃᓯᐅᑎᔭᐅᖁᓪᓗᒋᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐃᓱᒪᓕᐅᕈᑎᓂ ᐱᓕᕆᓂᐅᔪᓂ ᖃᐅᔨᒪᔭᐅᖁᔭᐅᓚᐅᖅᐳᖅ, ᑕᐃᒫᒃᑕᐅᖅ ᑐᑭᓯᒋᐊᖃᓚᐅᕐᒪᑦ ᐱᕙᖃᒃᑎᑦᑎᔪᖃᑎᐊᖃᕐᓂᖔᓂᑦ ᐊᖑᓇᓱᐊᖅᑕᐅᓂᖅᓴᖁᓗᒋᑦ ᐊᖑᑎᑦ ᐊᕐᓇᓪᓗᖕᓂᓪᓕ, ᑭᓯᐊᓂ ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᐊᒥᓲᓕᕆᓂᑦ ᐊᓯᕈᕈᓐᓇᕆᐊᖃᕐᖁᔭᐅᔦᑦ ᑎᑭᐅᒪᓗᑎᒃ 2:1 ᐊᒥᓲᓂᖃᕐᓗᑎᒃ ᐊᖑᑎᑦ ᐊᕐᓇᓪᓗᖕᓄᑦ.

- ᐊᖏᖃᑎᒋᖃᑎᒋᒃᑐᖃᓚᐅᖏᑦᑐᖅ ᑕᐃᑦᓯᒪᓂ ᐊᑐᖅᐸᒃᑐᑦ-ᐊᑐᖃᑎᒋᒃᑐᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᖃᓄᖅ ᐊᖑᓇᓱᐊᕐᓂᖅ ᓴᓂᕐᕚᒃᑕᐅᔭᕆᐊᖃᕐᒪᖔᑦ, ᑭᓯᐊᓂ ᐊᖏᖃᑎᒋᓚᐅᖅᑐᑦ ᐱᓕᕆᖃᑎᒋᒃᑐᑦ ᐃᖃᓇᐃᔭᖃᑎᒌᒋᐊᖃᕐᓂᖏᓐᓂᑦ ᑲᑐᔾᔨᓗᑎᒃ ᐊᒻᒪᓗ ᐃᑲᔪᖅᓯᐃᓗᑎᒃ ᑲᑐᔾᔨᓗᑎᒃ ᐃᓱᒪᓕᐅᕈᑎᖃᕐᓂᒋᑦ ᐱᓕᕆᐊᖑᓗᓂ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᒥ ᑲᑎᒪᔨᓂᑦ

<u>ᐊᖑᓇᓱᐊᕐᓂᐅᑦ ᖁᒃᓴᓇᕐᓂᖓᑕ ᖃᐅᔨᓴᖅᑕᐅᓂᖓ</u>

- ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᓕᖕᓂᑦ ᐱᓕᕆᖃᑎᒋᑦ ᑲᑎᑕᐅᓯᒪᔦᑦ ᐊᑐᓕᖁᔨᓚᐅᕐᒪᑕ “ᕿᑎᓪᓗᐊᖓᒍᕐᓗᓂ ᐊᖅᑯᑎᐅᑉ” ᐊᕙᑎᒎᖓᔦᖅ ᐊᑐᐃᓐᓇᕆᐊᓪᓚᒃ ᑐᕌᖓᓗᓂ ᓯᕗᓂᒃᓴᖓᓄᑦ ᐊᕙᑎᑕ ᖃᓄᐃᑦᑑᓂᕆᔭᖅᑕᖓᑕ ᐊᒻᒪᓗ ᐊᒃᓯᐊᔫᖏᓪᓗᓂ ᖃᓄᑎᒋᐅᒐᔪᕐᓂᖓ ᖁᒃᓴᓇᕐᓂᖓᑕ ᐃᒫᖑᑐᐃᓐᓇᕆᐊᖃᕐᒪᑦ ᑎᑭᐅᑎᒐᔪᕐᓂᖓ ᐊᒃᓲᓂᖅᐸᓇᓗᓂᐅᒃ ᐊᓯᕈᖏᑎᑦᑕᒃᓴᐅᓂᖓ ᓯᕗᒧᐊᑐᐃᓐᓇᓕᕐᓗᓂ. **ᐊᑐᖅᑕᐅᖁᔭᐅᔪᖅ ᐊᖑᓇᓱᐊᕐᓂᖅ ᐊᑐᐃᓐᓇᕆᐊᓕᒃᑯᑦ ᐊᒥᓲᓕᖑᑎᑕᐅᓚᐅᕐᒪᑕ 10-12 ᐊᕐᓇᓪᓗᐃᑦ ᐊᕐᕌᒍᑕᒪᒧᑦ** [20-24 ᓇᓄᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ ᐃᒫᑎᒋᐅᓗᑎᒃ 1:1 ᓇᓪᓕᐊᖑᓂᖏᑕ ᐊᒥᓲᓂᖏᑦ ᐅᕝᕙᓗᓂᑦ 30-36 ᓇᓄᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ ᐃᒫᑎᒋᐅᓗᑎᒃ 2:1 ᓇᓪᓕᐊᖑᓂᖏᑕ ᐊᒥᓲᓂᖏᑦ].
- ᐊᖑᓇᓯᒃᑕᐅᓂᖏᑕ ᖁᒃᓴᓇᕐᓂᖏᑦ ᖃᐅᔨᓇᓯᐊᖅᑕᐅᑎᓪᓗᒋᑦ ᐱᔭᐅᑎᑦᑎᓚᐅᕐᒪᑕ ᓇᓖᕋᒃᑕᐅᔪᓐᓇᕐᓂᖑᓐᓂᑦ ᑕᑎᒋᔭᒃᓴᐅᓂᖅᓴᐅᓗᑎᒃ ᐊᕙᑎᑕ ᐊᑐᐃᓐᓇᕆᐊᖃᓂᖓᓄᑦ ᖃᐅᔨᒪᔾᔦᑕᐅᒐᔭᖅᑐᓄᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓯᐊᔫᑉ ᐃᓗᐊᓄᑦ (SH) ᐊᒥᓲᓂᒃᑲᓐᓂᖏᑦ ᐊᓯᕈᕐᓂᐊᖏᒪᑕ ᐱᕙᓪᓕᐊᑦᑎᐊᕐᓂᖏᑦ ᑕᐃᒫᖑᓚᐅᓂᖓᑐᑦ ᐊᓂᒍᖅᑐᓂ 30 ᐊᕐᕌᒍᓂ ᐊᒻᒪᓗ ᐊᒃᓯᐊᔫᕐᓂᐊᖏᓪᒪᑕ ᐊᒃᑐᖅᑕᐅᓂᖏᑦ ᑲᔪᓯᓂᖓᓄᑦ ᐊᕙᑎᑕ ᐊᓯᕈᕐᓂᖓᓄᑦ. ᐅᖃᐅᓯᕆᔭᐅᔪᑦ ᐱᔭᐅᓚᐅᖅᑐᑦ ᓄᓇᓕᖕᓂᑦ ᐊᐱᖅᓯᕆᐊᖅᑐᖅᓯᒪᑎᓪᓗᒋᑦ ᐊᒻᒪᓗ ᐊᑐᖅᐸᒃᑐᑦ-ᐊᑐᖃᑎᒋᒃᑐᓂᑦ ᑲᑎᒪᓂᖏᓐᓂ, ᐃᓚᒋᔭᐅᓪᓗᑎᒃ ᓄᐊᑕᐅᔦᑦ ᓄᓇᖃᖅᑳᖅᓯᒪᔦᑦ ᖃᐅᔨᒪᓂᖏᑦ, ᐃᑲᔪᖅᓯᐊᓂᖅᓴᐅᓚᐅᕐᒪᑕ ᑕᒪᑐᒥᖓ ᐊᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᑦ ᑕᒪᓐᓇᐅᑎᓪᓗᒍ ᖃᐅᔨᒪᓂᖅ ᑕᒪᑐᒥᖓ ᖃᓄᐃᓕᔾᔦᑕᐅᓂᖓᓂᑦ ᓇᓄᕐᓄᑦ ᐊᕙᑎᑕ ᐊᓯᕈᑉᐸᓪᓕᐊᓂᖓᓄᑦ ᐃᓚᒋᔭᐅᒐᔭᕐᒪᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᓯᕚᓪᓕᐊᓂᖓᓄᑦ. **ᐊᑐᓕᖁᔨᓚᐅᖅᑐᑦ ᐊᖑᓇᓱᐊᕐᓂᕐᒧᑦ ᑖᒃᑯᑎᒎᓇ ᐊᑐᐃᓇᕆᐊᖃᕐᓂᖏᓐᓂ ᐊᒥᓲᓕᖅᑎᑕᐅᓚᐅᕐᒪᑕ 20-21-ᓂᒃ ᐊᕐᓇᓪᓗᐃᑦ ᐊᕐᕌᒍᑕᒥ** [40-42 ᓇᓄᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ ᑎᑭᐅᒪᓗᑎᒃ 1:1 ᓇᓐᓄᒃᑕᐅᕙᓪᓗᑎᒃ ᐊᒥᓲᓂᖏᑦ ᐅᕝᕙᓗᓂᑦ 60-63 ᓇᓄᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ ᑎᑭᐅᒪᓗᑎᒃ 2:1 ᓇᓪᓕᐊᖑᓂᖏᑕ ᐊᒥᓲᓂᖏᑎᒍ].

ᐃᒪᐃᖅᑯᔨᔾᔦᑎ

ᑐᙵᕕᒋᓪᓗᒋᑦ 2016-ᒥ ᖃᐅᔨᓇᓯᐊᕐᓂᕐᒧᑦ ᓴᕿᑕᐅᓚᐅᖅᑐᑦ, ᑕᐃᒃᑯᐊᓗ ᐅᖃᒃᓯᒪᓚᐅᕐᒪᑕ ᖃᑦᓰᓐᓇᐅᓂᖅᓴᐅᓕᕐᓂᕋᐃᓪᓗᑎᒃ ᑎᑎᖅᑎᒍ ᒥᒃᓴᐅᓴᒃᑕᐅᔦᓂᑦ ᐊᒥᒐᖏᓐᓂᖏᓐᓂ, ᑭᓯᐊᓂ ᓇᓗᓇᖅᑐᖅ ᑕᒪᒃᑯᐊ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ ᖃᓄᐃᓕᕚᓪᓕᐊᓂᖏᑦ, ᐊᒻᒪᓗ ᓄᓇᖃᖅᑳᖅᓯᒪᔦᑦ ᖃᐅᔨᒪᓂᖏᑦ ᐅᖃᐅᓯᒪᖕᒪᑕ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ ᐃᒫᖑᒎᑐᐃᓐᓇᕆᐊᖃᖅᓴᑕ ᓱᖅᖃᒃᓯᒪᓇᑎᒃ ᑕᐃᒫᑦᑕᐃᓈᖅᒪᑕ ᐅᕝᕙᓗᓂᑦ ᐊᒥᓱᐳᒃᑲᓐᓂᖅᓯᒪᓪᓗᑎᒃ ᐊᒥᒐᖏᓐᓂᖏᑦ, ᒐᕙᒪᒃᑯᑦ ᐊᑐᖅᑕᐅᖁᔨᓕᕐᒪᑕ ᐊᐅᓚᑦᑎᓂᕐᒥ ᑲᑎᒪᔩᑦ ᐊᖏᖃᑕᐅᖁᓪᓗᒋᑦ ᐃᓘᓐᓇᓕᒫᖏᑦ ᓇᓐᓄᒃᑕᐅᔦᑦ ᐊᒥᓲᓂᖃᖅᑯᓪᓗᒋᑦ ᐊᑯᓐᓂᖓᓂ 12-16 ᐊᕐᓇᓪᓗᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ. ᐅᕙᓃᑎᓗᒋᑦ 2:1 ᐊᖑᑎᑦ ᐊᕐᓇᓪᓗᖕᓄᑦ ᐊᒥᓲᓕᕆᓐᓂᖏᓐᓂ, ᑖᓐᓇ ᐋᖅᑭᒃᑕᐅᑎᑦᑎᒐᔭᕐᒪᑦ ᐃᓘᓐᓇᓕᒫᖏᑦ ᓇᓐᓄᒃᑕᐅᔦᑦ **ᐊᑯᓐᓂᖓᓂ 36-50 ᓇᓄᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ** (24-34 ᐊᖑᑎᑦ ᐊᒻᒪᓗ 12-16 ᐊᕐᓇᓪᓗᐃᑦ). ᐅᕙᓃᑎᓗᒋᑦ 1:1 ᐊᖑᑎᑦ ᐊᕐᓇᓪᓗᖕᓄᑦ ᐊᒥᓲᓕᕆᓐᓂᖏᓐᓂ, ᑖᓐᓇ ᐋᖅᑭᒃᑕᐅᑎᑦᑎᒐᔭᕐᒪᑦ ᐃᓘᓐᓇᓕᒫᖏᑦ ᓇᓐᓄᒃᑕᐅᔦᑦ **ᐊᑯᓐᓂᖓᓂ 24-32 ᓇᓄᐃᑦ ᐊᕐᕌᒍᑕᒪᑦ** (12-16 ᐊᖑᑎᑦ ᐊᒻᒪᓗ 12-16 ᐊᕐᓇᓪᓗᐃᑦ). ᑖᓐᓇ ᐊᑐᓕᖅᑯᔨᔾᔦᑎ ᑐᑭᑖᖅᑎᑦᑎᔦᑕᐅᔭᕆᐊᖃᒃᓯᒪᓕᑦ ᓄᖅᑎᑦᑎᓂᕐᒥᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᕐᓂᕐᒥ ᐱᔦᓐᓇᕐᓂᓕᖕᓂᑦ ᐃᒃᐱᒋᔭᐅᑦᑎᐊᕐᓗᓂ ᒥᓂᒃᑕᒋᔭᑦᑎᓐᓂᑦ. ᐋᖅᑭᔾᔦᑕᐅᓇᓱᐊᕐᒪᑦ ᐃᒪᖕᒪᖑᑎᑦᑎᔦᑕᐅᓇᓱᐊᕐᓗᓂ ᐱᔭᐅᑎᑦᑎᔦᑕᐅᓇᓱᐊᕐᓗᓂ ᐊᖏᖅᑕᐅᓯᒪᓗᓂ ᐅᖃᐅᔾᔨᒋᐊᕈᑎ ᐱᓕᕆᔾᔪᑎᓂ ᐃᖃᓇᐃᔭᑦᓂᑦ.

Nunavut

Forêts, Faune et Parcs Québec

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ᑖᓐᓇ ᑎᑭᐅᒪᓂᖓ ᓇᓗᕋᒃᑕᐅᔪᓐᓇᕐᓂᖓᑕ ᐃᓱᒪᒋᖃᓯᐅᔾᔨᖓᒪᑦ ᐱᐅᓛᓂᑦ ᐱᓯᐅᔪᓐᓇᖅᑎᑕᐅᔪᓂᑦ ᑐᓴᐅᒪᔾᔪᑎᒃᓴᓂᑦ ᖃᐅᔨᓇᓱᐊᖅᑎᒃᑯᓐᓃᖓᒐᑐᓂᑦ ᐊᒻᒪᓗ ᓄᓇᖅᑲᖅᑳᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖏᓐᓂᑦ, ᐊᒥᓲᓂᖅᓴᐅᑎᓪᓗᒋᑦ ᓇᓗᕋᒃᑕᐅᔪᓐᓇᕐᓂᖏᑦ ᖁᒃᓴᓇᕐᓂᖅᓴᒦᔪᑕᐅᔪᓐᓇᕐᒪᑕ. ᐊᑐᕐᓂᐊᓕᖅᑎᓪᓗᒍ ᓄᑖᖅ ᖃᐅᔨᓇᓱᐊᕐᓂᖅ ᐊᒥᓲᓂᒃᑲᓂᖏᓐᓂᑦ (ᑐᒃᓯᕌᖑᓯᒪᔪᖅ 2022-ᒥ), ᖁᒃᓴᓇᕐᓂᖓ ᐊᒥᓲᓂᖅᓴᐅᓂᖏᓐᓅᖓᔪᖅ ᑎᑭᐅᒪᔭᖓ ᖁᒃᓴᓇᓗᐊᕈᓐᓃᖅᑎᑕᐅᓗᓂ. ᐊᑐᓕᖅᑕᐅᕐᑯᓯᓕᕋᑦ ᑕᒪᒃᑯᐊ ᐊᖑᓇᓱᐊᖅᑕᐅᔪᑦ ᖃᑦᓯᐅᓂᖏᑦ, ᐃᓅᓐᓇᓕᒦᖓᓄᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓅᑉ ᐃᓗᐊᓄᑦ (SH) ᐊᒥᓲᓂᒃᑲᓂᖏᓐᓂ, ᐊᑐᓕᑦᕆᐅᑎᒋᕐᑯᓗᒋᑦ ᐱᓯᐅᓇᓱᐊᕐᓂᖏᓐᓂ ᓴᕿᔾᔪᑕᐅᓂᐊᖅᑐᑦ ᑕᐃᑲᙵᑦ ᑭᖑᓪᓕᕐᒥ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓇᓱᐊᕈᑕᐅᔪᑦ ᐊᑐᐃᓐᓇᐅᓕᕋᓱᐊᕐᓂᖏᓐᓂ, ᑕᐃᑦᓱᒪᓂᓗ ᖃᐅᔨᓵᖅᓯᒃᑲᓂᕐᓂᖅ ᐱᓕᕆᐊᖑᔪᓐᓇᖅᓯᓂᐊᕐᓗᓂ. ᐱᑕᖃᒃᑎᓐᓇᒍ ᑕᒪᓐᓇ ᐊᖑᑎᑦ-ᐱᓯᐅᓂᖅᓴᐅᓂᖓ ᓇᓪᓕᐊᖑᓂᖏᑕ-ᓂᕈᐊᖅᑕᐅᑎᓪᓗᒋᑦ ᐊᖑᓇᓱᐊᖅᑕᐅᔪᑦ, ᐊᒥᓲᓂᖏᑦ ᐱᓯᐅᔪᓐᓇᖅᑎᑕᐅᔪᑦ ᐊᖑᓇᓯᒃᑕᐅᔪᓐᓇᕐᓗᑎᒃ/ᐱᓯᐅᔪᑦ ᖃᑦᔪᓐᓇᐅᓂᖅᓴᐅᓯᓇᐊᖅᑎᑕᐅᓕᕋᔭᕐᒪᑕ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᑎᓪᓗᒋᑦ ᐊᒃᓲᓂᖅᓴᖅ ᐊᒃᑐᖅᑕᐅᕙᔭᕐᓂᖏᑦ ᑕᒪᒃᑯᐊ ᐊᕐᓇᓪᓗᐃᑦ ᐊᖑᓇᓱᐊᖅᑕᐅᕙᔭᖅᐳᑕ ᓇᓄᐃᑦ ᐊᒥᓲᓂᒃᑲᓂᖓᑕ ᑕᐃᒪᑦᑕᐃᓐᓈᕈᓐᓇᕐᓂᖏᓐᓂ ᐊᖑᑎᑦ ᐊᖑᓇᓱᐊᖅᑕᐅᑎᓪᓗᒋᑦ.

ᓴᓂᕝᕙᒃᑕᐅᓂᖏᑦ ᑕᒪᕐᒥᒃ ᐊᖑᓇᓱᐊᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᓯᓇᐊᖅᑲᕐᓂᐊᕐᒪᑕ ᐱᓕᕆᔪᓄᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒥ ᑲᑎᒪᔩᓂᑦ ᐱᓕᕆᖃᑎᒋᔭᐅᓗᑎᒃ ᐱᓕᕆᖃᑕᐅᔭᕆᐊᓕᑦ ᐃᓄᐃᑦ ᐃᖃᓇᐃᔭᕐᕖᕐᑯᑎᖏᑦ ᐊᒻᒪᓗ ᐊᑐᖅᐸᒃᑐᑦ ᑲᑎᑕᐅᓯᒪᔪᑦ.

ᑖᓐᓇ ᐊᑐᓕᕐᑯᓯᔾᔨᑎ ᐱᖃᓯᐅᔾᔨᖓᒪᑦ ᐱᓯᐅᑎᑕᐅᔪᓂᑦ ᐅᖅᑯᐊᓂ ᑲᖏᖅᓱᐊᓅᑉ ᐃᓗᐊᓄᑦ (SH) ᐋᖅᑭᑦᑎᐊᖅᓯᒪᔭᕆᐊᓕᑦ ᐃᖃᓇᐃᔭᖅᑎᕆᒃᑐᑦ ᑲᑎᑕᐅᓯᒪᔪᑦ, ᑭᐅᔾᔪᑕᐅᓚᐅᖅᑐᑦ ᓄᓇᓕᖕᓂᑦ ᖃᑎᒪᖃᑎᖃᒃᑎᓪᓗᒋᑦ, ᐊᒻᒪᓗ ᑐᓴᐅᒪᔾᔪᑎᒃᓴᓂᑦ ᓄᐊᑦᑎᑎᓗᒋᑦ ᐊᑐᖅᐸᒃᑐᑦ-ᐊᑐᖃᑎᒋᒃᑐᑦ ᑲᑎᒪᑎᑕᐅᑎᓪᓗᒋᑦ. ᐊᑐᓕᕐᑯᓯᔾᔨᑎ ᐊᑐᖅᑕᐅᓪᓚᕆᒃᑎᑦᑎᓇᓱᐊᕐᒪᑦ ᐊᖑᓇᓱᐊᕐᓂᖅ ᐱᐅᙱᓕᑎᖅᑕᐅᕐᑯᓇᒍ ᒫᓐᓇ ᓄᖑᑕᐅᑎᑕᐅᑦᑕᐅᓕᒪᓂᖏᓄᑦ ᐃᓱᒫᓗᑕᐅᑎᓪᓗᒋᑦ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ ᒫᓐᓇᑦᑎᐊᕈᓗᒃ ᓯᕗᓂᒃᓴᑦᑎᓐᓂ, ᐅᑕᖅᑭᓂᑦᑎᓐᓂ ᐱᓴᓅᔭᓇᓱᐊᕐᓂᖏᓐᓂᑦ ᑭᖑᓪᓕᕐᒥ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓇᓱᐊᖅᓯᓂᖅ. ᑖᓐᓇ ᐋᖅᑭᒃᑕᐅᑎᑦᑎᖓᒪᑦ ᐱᔾᔪᑎᒃᓴᖃᑦᑎᐊᖅᑐᒥᒃ ᐊᑐᓕᖅᑎᑦᑎᓂᕐᒥᑦ ᐱᓂᕐᓗᒃᑕᐅᑎᑦᑎᑕᐃᓕᒪᓂᕐᒧᑦ ᒪᓕᒃᑕᐅᔪᓇᐊᓕᙱᓂᑦ, ᐃᓕᓴᕆᔭᐅᑎᓪᓗᒍ ᐱᓪᓚᕆᐅᓂᖓ ᓄᓇᖅᑲᖅᑳᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖏᑦ ᑕᐃᒃᑯᓂᖓ ᐱᖃᑎᒍᑕᐅᓚᐅᖅᑐᓂᑦ. ᐊᑐᖅᑕᐅᔪᓐᓇᖅᓯᓂᖏᓄᑦ ᐋᖅᑭᒋᐊᑐᑎᑦ ᐊᐅᓚᑦᑎᓂᕐᒥ ᐱᓕᕆᔾᔪᑎᒧᑦ ᐋᖅᑭᒃᑕᐅᔪᓐᓇᕐᒪᑦ ᐊᑐᖅᑕᐅᓯᓇᐊᖃᓕᖅᑐᐊᖅᐸᑕ ᓄᑖᑦ ᐊᒥᒐᖏᓐᓂᖏᓐᓄᑦ ᓴᖅᑭᔾᔪᑎᑦ ᐱᔭᒃᓴᐅᓕᖅᑐᐊᖅᐸᑕ ᐅᕙᓗᓂᑦ ᓴᙱᔫᓗᑎᒃ ᖃᐅᔨᒪᔪᑎᒃᓴᐃᑦ ᑐᙵᕕᓕᑦ ᓄᓇᖅᑲᖅᑳᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖏᓐᓂᑦ ᐅᕙᓗᓂᑦ ᖃᐅᔨᓇᓱᐊᕐᑎᑦ ᖃᐅᔨᓇᓱᐊᑕᒥᓂᖏᑦ ᖃᐅᔨᓇᖅᓯᑎᑦᑎᒃᐸᑕ ᐊᒃᓯᐊᓗᒃ ᐊᓯᕈᖅᑐᖅᑲᐅᓂᖓᓂᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓂ ᑖᒃᑯᐊ ᐊᒥᓲᓂᒃᑲᓂᖏᑦ.

ᐊᑎᓕᐅᖅᑎᐅᖃᑎᒌᑦ:

ᓯᑎᕝ ᐱᒃᓴ
ᒥᓂᔅᑕᐅᑉ ᑐᖓᓕᐊᑕ ᑐᖓᓕᖓ
ᐊᕙᑎᓕᕆᔩᑦ
ᓄᓇᕗᑦ ᒐᕙᒪᖓ

ᑕᓂᐊᓪ ᓰᑦ-ᐱᐊᕐ
ᑐᑭᓖᐊᖅᑎᑦᑎᔩ
Expertise Department on Terrestrial Fauna, Herpetofauna and Avifauna

/ for

ᔪᓕ ᓯᐸᓪᓕᓐ
ᑐᑭᓖᐊᒃᑎᑦᑎᔩ ᑕᒪᐃᓐᓂ
ᐆᒪᔪᓕᕆᓂᕐᒥ ᐊᐅᓚᑦᑎᓂᕐᒥ ᐊᐅᓚᑦᑎᔩᑦ
ᑲᓇᑕᐅᑉ ᐅᒪᔪᓕᕆᓂᕐᒧᑦ ᐱᔩᑦᑎᕋᑦᑎᖏ
ᐊᕙᑎᓕᕆᓂᕐᒥ ᐊᒻᒪᓗ ᓯᓚᐅᑉ ᐊᓯᔾᔩᖅᐸᓪᓕᐊᓂᖓᓂ ᑲᓇᑕᒥ

Forêts, Faune et Parcs Québec

Environment and Climate Change Canada   Environnement et Changement climatique Canada

ᐆᒪᔪᐃᑦ ᐊᖏᕐᕋᖏᓐᓂᑦᓗ ᑲᒫᑦ
ᒥᓂᔅᑕᖏᑦ ᐱᕈᕐᑐᓕᕆᔩᑦ, ᐆᒪᔪᓕᕆᔩᑦ ᐊᒻᒪᓗ ᒥᕐᖑᐃᓯᕐᕕᓕᕆᔩᑦ
ᑯᐱᐊᒃ ᑲᓇᒪᖓ

EXECUTIVE SUMMARY

ᓇᐃᓪᓕᑎᐊᕐᓯᒪᔪᑦ

ᑕᓯᐅᔭᕐᔪᐊᑉ ᓂᒋᖓᒨᖓᓂ ᓇᓄᕐᓂᒃ ᑲᑎᖕᖓᔪᓂᒃ ᓇᓄᑦᑕᐅᒐᓱᐊᕐᐸᓐᓂᖏᓐᓂᒃ ᕿᒥᕐᕈᒃᑲᓐᓂᕐᓂᖅ: ᑐᓴᕈᑎᒃᓴᐃᑦ ᑲᒪᒋᔭᐅᓯᒪᓕᕐᓂᖏᓐᓂᒃ

ᔫᓂ 24 2020

ᐸᕐᓇᒃᑕᐅᓯᒪᔪᑦ ᐅᑯᓄᖓ: ᑕᑭᐅᕆᓐ ᔅᒥᑦ, Caryn Smith (ᓄᓇᕗᒻᒥ ᐊᕙᑎᓕᕆᔨᑦ); ᒃᕆᑯᕐ ᑭᓪᐳᕐᑦ, Gregor Gilbert (ᒪᑭᕕᒃ ᑯᐊᐳᕆᓴᓐ); ᐹᓪ ᐃᕐᖓᐅᑦ, Paul Irngaut (ᓄᓇᕗᑦ ᑐᓐᖓᕕᒃ); ᓵᒻ ᐊᐃᕗᕐᓴᓐ, Sam Iverson (ᐊᕙᑎᓕᕆᔨᓂᑦ ᐊᒻᒪ ᓯᒪᐅᑉ ᐊᓯᔾᔨᕐᐸᓪᓕᐊᓂᐊᓂᒃ ᑲᓇᑕᒥ); ᐋᓚᓐ ᐱᓐ, Alan Penn (ᒃᕇ ᒐᕙᒪᖕᒋᓐᓂᑦ); ᒫᕇ-ᒃᓛᑦ ᕆᑦᓯᕐ, Marie-Claude Richer and Guillaume Szor (ᓇᐸᕐᑐᓕᕆᓂᕐᒧᑦ ᓂᕐᔪᑎᓕᕆᓂᕐᒧᑦ ᒥᕐᖑᐃᓯᕐᕕᓕᕆᓂᕐᒧᓗ ᐱᑦᔪᔫᕕᖓᓐᓂᑦ ᑯᐯᒃ ᑲᕙᒪᖓᑕ); ᐋᓐᔾᓚ ᑳᒃᓴᓐ, Angela Coxon (ᐃᔪ ᐃᒪᕐᒥᐅᑕᓂᒃ ᐅᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ)

ᑕᓯᐅᔭᕐᔪᐊᑉ ᓂᒋᖓᒨᖓᓂ ᓇᓚᐅᒃᓵᕐᑕᐅᓯᒪᔪᑦ ᓇᓄᐃᑦ ᑲᑎᖕᖓᐅᕐᑐᑦ ᐅᓄᕐᓂᖏᑦ ᐊᖏᕐᕈᑕᐅᓯᒪᓕᕐᒪᑕ ᒥᐊᓂᕐᓯᓂᒃᑯᑦ ᐊᖓᔪᖅᑳᓄᑦ. ᑖᒃᑯᐊ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᖃᐅᔨᓴᕆᐊᓪᓚᒋᐊᖃᕐᓯᒪᔪᑦ ᑲᑎᓪᓗᒋᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᓇᓄᑦᑕᐅᔪᓐᓇᕐᑐᑦ/ᑲᑎᓪᓗᒋᑦ ᐅᒪᔪᕐᑕᐅᔪᓐᓇᕐᑐᑦ ᐃᓱᓕᑦᑕᕐᓂᖃᓗᑎᒃ ᑖᒃᑯᓇᖓᑦ ᑲᑎᖕᖓᐅᕐᓱᑎᒃ ᓇᓄᕐᓂᑦ ᒥᒃᓵᓄᐊᖓᔪᓂᒃ.

ᑲᔪᖏᕐᓱᐃᓂᒃᑯᑦ ᐱᓇᓱᖃᑎᒌᓐᓂᕐᒥᒃ ᐊᒻᒪ ᐋᖅᑭᐅᒪᖃᑎᒌᑦᑐᒃᑯᑦ ᐃᓱᒪᓕᐅᖃᑎᒌᓐᓂᕐᒥᒃ, ᑕᓯᐅᔭᕐᔪᐊᑉ ᑲᖏᖓᒨᖓᓂ ᓇᓄᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᐋᖅᑭᒃᑕᐅᓚᐅᕐᑐᑦ ᑭᖑᓂᐊᓂ (ᑖᒃᑯᐊ, ᑲᑎᒪᔩᑦ). ᓇᓄᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᑭᒡᒐᕐᑐᕐᑎᖃᕐᓯᒪᑎᒃ ᐅᑯᓂᖓ ᒐᕙᒪᖏᑦ ᑲᓇᑕᐅᑉ, ᐊᕕᑦᑐᕐᓯᒪᔪᑎᒍᑦ ᐊᒻᒪ ᐅᑭᐅᕐᑕᕐᑐᒥ ᒐᕙᒪᐃᑦ (ᑲᓇᑕ, ᓄᓇᕗᑦ, ᑯᐸᐃᒃ, ᐋᓐᑎᐊᕆᐅ) ᐊᒻᒪ ᐃᓄᐃᑦ/ᒃᕆ ᓄᓇᑖᕐᓯᒪᓂᖏᑦᒍᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ (ᓄᓇᕗᑦ ᑐᓐᖓᕕᑦ, ᒪᑭᕕᒃ ᑯᐊᐳᕆᓴᓐ, ᒃᕆ ᒐᕙᒪᖓ), ᐊᒻᒪ ᐅᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ (ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ, ᓄᓇᕕᒃ ᐃᒪᕐᒥᐅᑕᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ, ᐃᔪ ᐊᓪᓚᐃᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ) ᐊᒻᒪ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ, ᐃᖃᓪᓕᐊᕐᓂᕐᒧᑦ ᐊᒻᒪ ᒥᑭᒋᐊᕐᓂᐊᕐᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᓈᓚᒋᐊᕐᑐᕐᒪᔪᑦ.

ᐱᔭᕆᐊᑐᔪᓂᒃ ᐱᓕᕆᔨᐅᔪᑦ ᐃᑲᔪᕐᑎᐅᓪᓗᑎᒃ ᑲᑎᒪᔨᓂᒃ ᐸᕐᓇᒃᓯᒪᔪᑦ ᒪᕐᕈᐃᓕᖓᔪᓂᒃ ᑐᓴᕈᑎᓂᒃ: (1) *ᑕᓯᐅᔭᕐᔪᐊᑉ ᓂᒋᖓᒨᖓᓂ ᓇᓄᐃᑦ ᑲᑎᖕᖓᐅᕐᑐᑦ ᒥᒃᓵᓄᑦ ᑐᓴᕐᑎᕐᓯᒍᑏᑦ, ᓯᑎᐱᕆ 2019,ᒥ* ᐊᒻᒪ (2) ᐆᒪᔪᓂᒃ

EXECUTIVE SUMMARY

ᐊᑦᑕᓇᕐᑐᒦᓐᓂᕋᕐᑕᐅᔪᓂᒃ ᕿᒥᕐᕈᓂᖅ ᑕᓯᐅᔭᕐᔪᐊᑉ ᓂᒋᖔᖓᓂ ᓇᓄᕐᓂᒃ ᑲᑎᓐᖓᐅᕐᑐᓂᒃ, ᔫᓂ 2019 (ᑕᐃᒪᐃᒻᒪᑦ, ᓇᓄᕐᓂᒃ ᑲᑎᓐᖓᐅᕐᑐᓂᒃ ᖃᐅᔨᓴᕈᑕᐅᓯᒪᔪᓂᒃ ᑐᓴᕐᑎᑦᓯᒍᑏᑦ ᐊᒻᒪ ᓇᓄᕐᓯᐅᕐᐸᓐᓂᕐᒧᑦ ᑲᑎᓐᖓᐅᕐᑐᓂᒃ, ᔫᓂ 2019 (ᑕᐃᒪᐃᒻᒪᑦ, ᓇᓄᐃᑦ ᑲᑎᓐᖓᐅᕐᑐᑦ ᒥᒃᓵᓄᑦ ᑐᓴᕐᑎᑦᓯᒍᑏᑦ ᐊᒻᒪ ᓇᓄᕐᓯᐅᕐᐸᓐᓂᕐᒧᑦ ᑐᓴᕈᑏᑦ, ᑕᒪᕐᒥᒃ).

ᒪᕐᕈᐃᓕᖓᔪᑦ ᑐᓴᕐᑎᑦᓯᒍᑎᖏᑦ ᑐᓂᔭᐅᓯᒪᔪᑦ ᖃᓇᑕᐅᔭᒃᑯᑦ ᐃᓄᐃᑦ ᐊᒻᒪ ᐊᓪᓚᐃᑦ ᒃᑲ ᐊᒻᒪ ᐊᕙᑦᑐᕐᓯᒪᔪᑎᒎᑦ ᓄᓇᓕᓂ ᐊᒻᒪ ᐊᕙᑦᑐᕐᓯᒪᔪᑎᒎᑦ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᒥᑭᒋᐊᕐᓂᐊᕐᓂᕐᒧᓪᓗ/ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᔭᓄᐊᕆ 2020,ᒥ ᐊᒻᒪ ᓄᓇᓕᓐᓂ ᑲᑎᒪᑎᑦᓯᓪᓗᑎᒃ ᐃᓄᒃᔪᐊᒥ, ᑯᐸᐃᒃ (ᔭᓄᐊᕆ27, 2020), ᐅᒥᐅᔭᖅ, ᑯᐸᐃᒃ (ᔭᓄᐊᕆ 28, 2020) ᐊᒻᒪ ᑰᒃᔪᐊᕌᐱᒃ, ᑯᐸᐃᒃ (ᔭᓄᐊᕆ 30, 2020) ᓯᕗᓕᖅᑎᖃᕐᓯᑎᒃ ᑲᓇᑕᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᓐᓂᒃ ᐊᒻᒪ ᒪᑭᕙᒃ ᑯᐊᐳᓈᓴᓐ ᑭᒡᒐᕐᑐᕐᑎᖏᓐᓂᒃ (ᐃᑲᔪᕐᓯᔭᐅᓪᓗᑎᓪᓗ ᐅᑯᓄᖓ Ministère des Forêts, de la Faune et des Parcs du Québec). ᓄᓇᓕᓐᓂ ᑲᑎᒪᑎᑦᓯᓂᖃᓚᐅᕐᑐᑦ ᓴᓂᑭᓗᐊᕐᒥ, ᓄᓇᕗᑦ (ᕖᕗᐊᕆ11, 2020) ᓯᕗᓕᕐᑎᖃᕐᓯᑎᒃ ᓄᓇᕗᑦ ᒐᕙᒪᖏᑕ ᐊᕙᑎᓕᕆᔨᖏᓐᓂᒃ ᐊᒻᒪ ᑲᑎᒪᖃᑕᐅᓪᓗᑎᒃ ᑭᒡᒐᕐᑐᕐᑎᖏᑦ ᓄᓇᕗᑦ ᑐᓐᖓᕕᒃᑯᓐᓂᑦ, ᕿᑭᕐᏔᓗᒻᒥ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ, ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᓐᓂᑦ. ᐅᖃᖅᑎᖃᓯᑦᑎᒃ Eeyou Istchee ᑯᕆᓂᒃ ᑎᑎᖅᑲᑎᒍᑦ ᐊᒻᒪ ᐅᖀᓚᐅᑎᒃᑯᑦ ᐊᒻᒪ ᓯᕗᓕᕐᑎᖃᕐᓯᑎᒃ ᐋᔪ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐃᒪᕐᒥᐅᑕᓂᒃ ᑲᑎᒪᔨᖏᓐᓂᒃ, ᒐᕙᒪᖏᑦ ᐊᒻᒪ ᑯᕆ ᒥᑭᒋᐊᕐᓂᐊᕐᐸᓐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᖏᓐᓂᑦ. ᑭᖑᓪᓕᕐᐹᒥ, ᑲᑎᖃᑎᖃᓯᑎᒃ ᐋᓐᑎᐊᕆᐅᒥ ᑯᕆᓂᒃ ᑎᑎᖅᑲᑎᒍᑦ ᐊᒻᒪ ᑲᑎᖃᑎᖃᓪᓚᑦᑖᕐᓂᒃᑯᑦ Peawanuck,ᒥ, ᐊᓐᑎᐊᕆᐅᒥ (ᑎᓯᐱᕆ 10, 2020) ᓯᕗᓕᕐᑎᖃᕐᓯᑎᒃ ᑲᓇᑕᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᓐᓂᒃ (ᐅᖃᕐᕕᐅᓯᒪᓪᓗᑎᓪᓗ ᐋᓐᑎᐊᕆᐅᒥ ᓄᓇᒥᐅᑕᓕᕆᔨᓂᒃ ᐱᕈᒃᑲᓐᓂᕈᓐᓇᕐᑐᓂᒃ ᐊᒻᒪ ᓇᐹᕐᑐᓕᕆᔨᓂᒃ).

ᕖᕗᐊᕆ 25-26, 2020,ᒥ ᑲᑎᒪᓂᖃᓚᐅᕐᑐᑦ ᒪᓐᑐᕆᐊᓪᒥ, ᑯᐸᐃᒃ. ᑲᑎᒪᑎᑦᓯᔨᖃᓚᐅᕐᑐᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐋᑕᒥ ᑎᓯᓪ ᐊᓗᑭ ᒪᑭᕙᒃ ᑯᐊᐳᓇᓵᒃᑯᓐᓂᑦ ᐊᒻᒪ ᔭᐃᒥᓯ ᐃᑦᑐᓗᒃ ᓄᓇᕗᑦ ᑐᓐᖓᕕᒃᑯᓐᓂᑦ ᐊᒻᒪ ᑲᑎᒪᖃᑕᐅᔪᑦ ᓄᓇᓕᖏᓐᓂ ᐃᓚᐅᓪᓗᑎᒃ ᐊᕙᒃᑐᕐᓯᒪᓂᑎᒍᑦ. ᑲᑎᑦᓱᒋᑦ, ᑲᑎᒪᖃᑕᐅᔪᑦ 57,ᖑᓪᓗᑎᒃ, ᑭᒡᒐᕐᑐᕐᑐᑦ ᓴᓂᑭᓗᐊᒥ ᐊᖑᓇᓱᑦᑐᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᑦ, ᐃᓄᒃᔪᐊᒥ ᐆᒪᔪᓕᕆᔩᑦ, ᐅᒥᐅᔭᕐᒥ ᐅᒪᔪᓕᕆᔩᑦ, ᑰᒃᔪᐊᕌᐱᒻᒥ ᐅᒪᔪᓕᕆᔩᑦ, ᑯᕆ ᒥᑭᒋᐊᕐᓂᐊᕐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᖓ (ᓄᓇᓕᓐᓂᑦ), ᕿᑭᕐᏔᓗᒻᒥ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ, ᓄᓇᕗᑦ, ᓄᓇᕗᑦ ᑐᓐᖓᕕᒃ, ᒪᑭᕙᒃ ᑯᐊᐳᓈᓴᓐ, ᑯᕆ ᒐᕙᒪᖏᑦ, ᑯᕆ ᒥᑭᒋᐊᕐᓂᐊᕐᓂᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᖏᓐᓂᑦ (ᐊᖓᔪᖅᑳᑦ), ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᕐᔪᐊᑦ, ᓄᓇᕕᒻᒥ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᖏᑦ ᐆᒪᔪᓂᒃ ᑲᑎᒪᔩᑦ, ᐋᔪ ᐊᓪᓚᐃᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ, ᐊᖑᓇᓱᓐᓂᕐᒧᑦ, ᐃᖃᓪᓕᐊᕐᓂᕐᒧᑦ ᐊᒻᒪ ᒥᑭᒋᐊᕐᓂᐊᕐᓂᕐᒧᑦ ᑲᑎᒪᔨᐅᔪᑦ, ᓯᓚᑦᑐᕐᓴᕕᐊᓂᑦ ᕘᐊᓯᙳᑖ (ᖃᐅᔨᒪᔨᒻᒪᕆᒃ), ᐊᒻᒪ ᒐᕙᒪᖏᑦ ᑲᓇᑕᐅᑉ, ᓄᓇᕗᑦ, ᑯᐸᐃᒃ ᐊᒻᒪ ᐋᓐᑎᐊᕆᐅ.

ᐅᖃᐅᓯᕆᔭᐅᓚᐅᕐᑐᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐊᒻᒪ ᐱᖃᓯᐅᑎᓪᓗᒋᑦ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᐃᑦ ᑐᓂᔭᐅᓪᓗᑎᒃ ᓄᓇᓕᓐᓂ ᑲᑎᒪᑎᑦᓯᓂᒃᑯᑦ, ᐊᒻᒪ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᑐᑭᒧᐊᕐᑎᑦᓯᓂᒃᑯᑦ ᑲᑎᒪᓂᕐᓂᒃ.

ᓯᕗᓪᓕᕐᐹᒥ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐅᓛᒃᑯᑦ ᑐᓐᖓᓱᑦᑎᑦᓯᓂᖃᓚᐅᕐᑐᑦ ᐊᒻᒪ ᑐᒃᓯᐅᔾᔭᐅᓪᓗᑎᒃ ᒪᑐᐃᕐᓯᓂᒃᑯᑦ, ᐅᖃᓪᒪᖅᑳᕐᑎᓪᓗᒋᑦ ᐃᒃᓯᕙᐅᑕᐅᔪᑦ, ᐊᒻᒪ ᐅᖃᓪᒪᑎᑕᐅᓪᓗᑎᒃ ᒥᐊᓂᕐᓯᓂᕐᒧᑦ ᓴᓐᖏᓂᖃᕐᑐᑦ ᑐᒃᓯᑎᑦᓯᒋᐊᕐᓂᒃᑯᑦ ᓱᒧᑦ ᑲᑎᒪᓂᖃᒻᒫᑕ ᐱᔾᔪᑎᖃᕐᓯᑎᒃ, ᖃᐅᔨᔭᐅᓯᒪᓕᕐᑐᓂᓪᓗ ᓇᓄᐃᑦ ᑲᑎᓐᖓᐅᕐᑐᑦ ᖃᐅᔨᓴᕐᑕᐅᓯᒪᓕᕐᓂᖏᑎᒍᑦ ᖃᐅᔨᔭᐅᓯᒪᓕᕐᑐᑦ ᒥᒃᓵᓄᑦ, ᐊᒻᒪ ᖃᐅᔨᔭᐅᓯᒪᓕᕐᑐᓂᒃ ᖃᐅᔨᓴᕐᑕᐅᓂᖏᑎᒍᑦ ᓇᓐᓄᑦᑕᐅᔫᓇᕐᑐᓂᒃ ᕿᒥᕐᕈᓂᕐᒧᑦ.

EXECUTIVE SUMMARY

ᓯᕗᓪᓕᕐᐸᒦ ᐅᓪᓗᒥ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐅᓪᓗᕈᒥᑕᕐᓇᐅᑉ ᑭᖑᓂᐊᓂ ᑐᓵᑎᑕᐅᓂᖅᑫᓂᖅᓴᐅᓚᐅᕐᑐᑦ ᐅᖃᓕᒪᔪᓂᑦ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᖃᐅᔨᓴᑐᖃᕐᑎᑕ ᒥᒃᓵᓄᑦ ᓄᓇᕗᒥ ᐃᓄᓐᓂᑦ, ᓄᓇᕕᒻᒥ ᐃᓄᓐᓂᑦ, ᐊᒻᒪ ᐊᓪᓚᓂᑦ ᐄᔪ ᐃᓭ ᑯᕇᓂᑦ ᑲᑎᒪᖃᑕᐅᔪᓂᑦ.

ᓯᕗᓪᓕᕐᐸᒦ ᐅᓪᓗᐊᓂ ᐅᖃᐅᓯᐅᔪᑦ ᑲᑎᒪᔪᓄᑦ ᓇᓗᓇᐃᕐᑕᐅᓚᐅᕐᑐᑦ ᐃᒃᐱᒋᑦᓯᐊᕐᓯᒋᑦ. ᐅᑯᐊ ᑕᒫ ᐃᓚᖏᑦ:

- *ᓄᓇᕗᒻᒥᑦ ᐃᓄᐃᑦ: ᓯᕗᓕᕕᓂᖅᐳᑦ ᑕᐃᒪ ᖓᓕᒫ ᖅ ᓇᕿᓯᐅᕐᐸᒃᑲᓗᐊᕋᒥᒃ ᑕᑯᓗᐊᕐᐸᓚᐅᖏᒻᒪᑕ ᓇᓄᕐᓂᒃ. ᐊᒥᓲᓗᐊᕐᑐᑦ ᓇᓄᐃᑦ ᐸᕕᓇᕐᒪᑕ ᐃᓄᓐᓄᑦ. ᑲᑉᐱᐊᓇᕐᑐᑦ ᐃᓄᓐᓄᑦ ᐊᒻᒪ ᓱᕋᑦᑎᕆᕙᑦᓱᑎᒃ ᒥᑎᖃᕕᓂᒃ ᐊᒻᒪ ᓇᕿᓂᐊᕐᐸᑦᓱᑎᒃ. ᐃᓱᒪᒐᑦᑕ ᓇᓄᕐᑐᖃᕐᐸᒃᑲᓗᐊᕐᐸᑦ ᓄᖑᓐᓂᐅᔭᖏᒻᒪᑕ ᓇᓄᐃᑦ. ᐊᐃᕙᖃᑦᑕᐅᑎᔫᒪᕆᐅᓚᖕᒐᕗᑦ ᖃᐅᓯᓴᕐᑎᒻᒪᕇᑦ ᐃᓱᒪᒋᔭᖏᑕ ᒥᒃᓵᓄᑦ ᐊᒻᒪ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᖏᑕ ᒥᒃᓵᓄᑦ. ᐃᓚᐅᑎᑦᓯᖏᓐᓂᖅ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᐃᓱᒪᒋᔭᖏᓐᓂᒃ ᐊᑲᐅᓈᖏᑦᑐᒪᕆᐊᓗᒃ. ᐃᓅᓚᓯᐊᕈᓯᑦᑎᓐᓄᑦ ᐊᑲᐅᓈᖏᑦᑐᒪᕆᐅᒪᑕ, ᐊᒻᒪ ᐊᖑᓇᓯᑦᑎᒋᔭᕗᑦ ᑐᓴᕐᑕᐅᓇᑎᒃ.*

- *ᓄᓇᕕᒻᒥ ᐃᓄᐃᑦ: ᐊᕐᕋᒍᖏᓐᓂ 1980,ᓂ ᐆᒪᔪᕐᓯᐅᖃᑕᐅᕙᓚᐅᕐᑐᖓ ᐊᑖᑕᒃᑯᓐᓄᑦ. ᑕᐃᒪ ᖓᓕᒫᑲᓴᕐᓗ, ᓇᓄᐃᑦ ᑐᒥᖏᓐᓂᒃ ᑕᑯᕙᓐᓇᑕ ᐊᒻᒪ ᓇᓄᕐᑕᖃᕐᓂ ᐊᒻᒪ ᐊᑕᐅᓯᕐᒥᒃ ᑭᓯᐊᓂ ᐱᐊᕋᖅᑖᕐᐸᑦᓯᑎᒃ, ᐊᑎᕐᑕᓕᖅᕐᐸᑦᓯᑎᒃ. ᐅᓪᓗᒥᓕ ᑕᑯᕙᓕᕐᑐᒍᑦ 2–3,ᓂᒃ ᐊᑎᕐᑕᓕᓐᓂᒃ ᐊᒻᒪ ᐹᖅᑦᑕᕐᓯᒪᓪᓗᑎᒃ ᐃᓄᓐᓂᒃ (ᓄᓇᕕᒻᒥ). ᓯᑯ ᐊᐅᑐᐊᕐᒪᑦ, ᓇᓄᐃᑦ ᓄᓇᒧᐊᓲᒍᒻᒪᑕ ᐊᒻᒪ ᓄᓇᓕᓐᓂ ᐸᕝᕕᓴᕐᓯᑎᒃ. ᑕᒪᓐᓇ ᐃᓱᒪᒍᓯᖅ ᓇᑭᓐᖕᒫᕐᒪᖕᖓᑦ ᓇᓗᓇᕐᑐᖅ ᐃᒫᒃ ᐃᓱᒪᓂᖅ ᓯᑯᐃᑐᐊᕐᒪᑦ ᓇᓄᖃᕈᓐᓇᐃᓕᖅᑐᖅ. ᐃᒻᒥᒃᑯᑦ ᐊᐅᓚᕐᓯᓂᖃᕈᒪᕗᒍᑦ ᑕᒪᒃᑯᓂᖓ, ᐅᖃᐅᔾᔭᐅᖏᓪᓗᑕ ᐊᓯᖏᓐᓂᑦ ᓯᓚᕐᔪᐊᒥᑦ.*

- *ᐄᔪ ᑯᕇᓂᑦ: ᖃᖓᑕᓲᒃᑯᑦ ᓇᐃᓭᕐᑕᕕᓃᑦ ᓯᓕᒻᒫᑕ ᓇᓗᓇᖅᐳᖅ. ᑭᒐᕐᑐᕐᐳᖓ 6000,ᓂᒃ ᑯᕇᓂᒃ ᐆᒪᔪᕐᓯᐅᕐᑎᓂᒃ ᓯᓇᓂ ᐊᒻᒪ ᐅᖃᐅᓯᖃᕐᐸᒻᒥᔪᑦ ᓇᓄᕐᓂᒃ. ᐆᒪᔪᕐᓯᐅᕐᑎ Waskaganish,ᒥ ᑲᑎᑎᑕᐅᓚᐅᕐᓯᒪᔪᖅ 1947,ᒥ, ᐅᐸᓚᐅᕐᓯᒪᒻᒪᑦ Charlton Island,ᒧᑦ ᐊᒻᒪ ᑕᑯᓚᐅᕐᓯᒪᖕᒋᑦᑐᖅ ᓇᓄᕐᓂᒃ ᐊᕐᕋᒍᓂ 40,ᓂ. ᐅᖃᐅᑎᓚᐅᕐᑖᖓ ᑕᑯᓚᐅᕐᓂᕋᓯᓂ 12,ᓂᒃ ᓇᓄᕐᓂᒃ ᐊᕐᕋᓂᓵᖅ ᐅᐱᕐᖍᖑᑎᓪᓗᒍ. ᑖᒃᑯᐊ ᐅᖃᐅᓯᖏᑦ ᐃᑲᔪᕐᓯᔪᑦ ᐅᖃᐅᓯᕆᔭᖏᓐᓂᒃ ᐅᑭᐅᕐᑕᕐᑐᒥᐅᑦ. ᖃᐅᔨᓴᕐᑎᒻᒪᕇᑦ ᖃᐅᔨᒪᓂᖏᑦ ᐊᔾᔨᒋᖏᒻᒪᒋᑦ ᖃᐅᔨᒪᔭᑦᑕ.*

ᑲᑎᒪᓂᕐᒥᒃ ᑲᔪᓯᑎᑦᓯᔨ (ᑲᕈᓪ ᔅᐸᐃᔅ, Carole Spicer) ᓇᐃᓪᓕᒋᐊᕐᓯᒪᔪᓂᒃ ᐋᖅᑭᒃᓱᐃᓯᒪᔪᖅ ᐊᒻᒪ ᓴᖅᑭᓚᐅᕐᑐᓂᒃ ᓯᕗᓪᓕᕐᒥ ᐅᓪᓗᖓᓂ ᐅᑯᓂᖓ:

<u>ᑲᑎᒪᓂᕐᒧᑦ ᐱᔾᔪᑕᐅᔪᑦ</u>

- ᒐᕙᒪᒃᑯᓐᓄᑦ ᑭᒡᒐᕐᑐᕐᑐᑦ ᐊᒻᒪ ᐃᓄᐃᑦ/ᑯᕇ ᖃᐅᔨᒪᔨᖏᑦ ᑕᓖᓃᒪᑕ ᐅᖃᐅᓯᖃᕈᓐᓇᕐᓯᑎᒃ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᓂᒃ. ᑕᒪᑐᒪᓂ ᑲᑎᒪᓂᕐᒥ ᑕᐅᖅᓯᖃᑦᑕᐅᑎᔪᓐᓇᕐᒪᑕ ᐊᑐᓕᕐᑕᐅᕐᑯᔭᒥᓂᒃ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᓄᑦ ᐊᖑᓇᓱᓐᓂᐅᑉ ᒥᒃᓵᓄᑦ ᐊᒻᒪ ᐊᓯᖏᓐᓂᒃ ᐆᒪᔪᕐᑕᐅᔪᓐᓇᕐᑐᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᐱᔾᔪᑎᖃᕐᑐᓂᒃ.

- ᒐᕙᒪᒃᑯᓐᓄᑦ ᑭᒡᒐᕐᑐᕐᑐᑦ ᑲᑎᒪᖃᑕᐅᒪᑕ ᐊᑭᑐᓇᐊᕐᑐᕐᓯᒪᒐᑎᒃ ᑰᑕᓕᓇᓂᕐᒧᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᓇᐊᕐᑐᕐᓯᒪᖏᑦᑐᑦ ᐅᓄᕐᓂᖏᓐᓂᒃ ᓇᓗᓇᐃᒃᑯᑦᑕᕐᑐᕝᕙᑦᑐᑦ ᒥᒃᓵᓄᑦ

EXECUTIVE SUMMARY

ᐊᑐᕐᑕᐅᒐᔭᕐᑐᓂᒃ ᑕᒪᐃᓐᓄᑦ ᓄᓇᓕᓐᓄᑦ. ᑖᓃᒻᒪᑕ ᑐᓴᕐᑎᑦᓯᒍᒪᓪᓗᑎᒃ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᓂᒃ ᓄᐊᑕᐅᓯᒪᔪᓂᒃ ᐊᕐᕌᒍᓯᒪᓕᕐᑐᓂᐅᓄᕐᑐᓂ ᐊᑐᕐᓗᑎᒃ ᖃᐅᔨᓴᕐᑎᒻᒪᕆᑦ ᐱᓕᕆᒍᓯᖕᒋᓐᓂᒃ. ᑕᐃᒫᒃ, ᐃᓄᐃᑦ ᐊᒻᒪ ᑯᑲ ᑕᐅᖅᓯᖃᑦᑕᐅᑎᒻᒥᑎᓪᓗᒋᑦ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᓂᒃ ᓇᒻᒥᓂᖅ ᓄᓇᓕᓪᓗ ᐊᓯᖕᒋᑦ, ᑭᓪᓕᓕᐅᕐᑕᐅᓯᒪᔫᒃᑯᑦᑦ ᐊᒻᒪ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᕐᓯᐅᕐᑏᑦ.

- ᑐᑭᓯᒋᐊᕐᕕᒃᓴᓕᒫᑦ ᐅᖃᐅᓯᕆᔭᐅᓚᐅᕐᑐᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᓇᓗᓇᐃᕐᓯᒍᑕᐅᓚᐅᕐᒪᑕ ᐊᑐᕐᑕᐅᒍᓐᓇᕐᑐᓂᒃ ᐋᖅᑭᒃᓱᐃᓕᕐᐸᑕ ᐊᑐᓕᕐᑯᔭᐅᒐᔭᕐᑐᓂᒃ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᓄᑦ ᐃᒫᒃ ᐅᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᓕᕐᐸᑕ ᖃᑦᓯᓂᒃ ᐆᒪᔪᖃᑦᑕᕈᓐᓇᕐᓂᐅᑉ ᒥᒃᓵᓄᑦ.

<u>ᖃᐅᔨᓴᕐᑎᒻᒪᕇᑦ ᐅᔾᔨᕆᓯᒪᔭᖕᒋᑦ</u>

- ᐊᕐᕋᒍᒥ 2016,ᒥ ᖃᖓᑕᒍᑉᑯᑦ ᖃᐅᔨᓴᕐᑕᐅᓂᑯᐃᑦ ᒥᒃᓴᐅᓵᕐᓯᒪᔪᑦ ᑭᖑᕝᕕᐅᑎᓯᒪᔪᑦ 2011/2012,ᒥ ᒥᒃᓴᐅᓴᕐᑕᐅᓯᒪᓂᖕᒋᓐᓂᒃ ᑲᑎᙵᐅᕐᑐᑦ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ. ᐅᓄᖕᒋᓐᓂᖅᓴᐅᒻᒪᑕ, ᑭᓯᐊᓂ ᑕᒻᒪᕐᓯᒪᔪᑦ ᑲᑎᓯᒪᓪᓗᑎᒃ.

- ᐊᓯᖕᒋᑦᑕᐅᖅ ᖃᐅᔨᔭᐅᓯᒪᔪᑦ ᒥᑭᓂᖅᐅᓕᕐᓂᖕᒋᓐᓂᒃ, ᐅᓄᖕᒋᓐᓂᖅᓴᓂᓪᓗ ᐊᑎᕐᑕᖅᐸᓐᓂᖕᒋᑦ, ᑎᒥᖕᒋᑎᒍᓪᓗ ᓱᕈᑉᐸᓐᓂᖕᒋᑦ ᐊᒻᒪ ᐅᓄᕈᓐᓇᐃᕐᐸᓪᓕᐊᓂᖕᒋᑦ, ᐃᓱᒫᓗᒍᑕᐅᒻᒪᑕ ᐊᒻᒪ ᐱᖃᓯᐅᑎᓪᓗᒍ ᓯᓚᐅᑉ ᐊᓯᔾᔨᕐᐸᓪᓕᐊᓂᖓ.

<u>ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖕᒋᑦ</u>

- ᐃᓄᐃᑦ ᐊᒻᒪ ᑯᕇ ᓄᓇᓕᖕᒋᓐᓂ ᐊᒥᓲᓂᖅᓴᐃᑦ ᐃᓄᐃᑦ - ᓇᓄᕐᓄᑦ ᓵᑕᐅᖃᑦᑕᕐᓯᒪᒻᒪᑕ. ᐃᓱᒫᓗᒍᑎᖃᕈᑎᐊ ᐊᑦᑕᓇᕐᓂᖕᒋᑦ ᐃᓄᓐᓄᑦ ᐊᒻᒪ ᖃᓄᖅ ᐊᒃᑐᐃᓂᖕᒋᑦ ᓇᓄᐃᑦ ᐆᒪᔪᓂᒃ ᐊᓯᖕᒋᓐᓂᒃ (ᓇᑦᓰᑦ, ᒥᑏᑦ) ᐱᔭᐅᓗᐊᕐᓱᑎᒃ.

- ᑕᑯᕙᓕᕐᓂᖅ ᐅᓄᕐᓂᖅᓴᓂᒃ ᓇᓄᕐᓂᒃ ᐅᓄᓗᐊᕐᓂᖕᒋᓐᓄᖃᐃ ᓇᓄᐃᑦ, ᐊᒻᒪ ᐊᓯᔾᔨᕐᐸᓪᓕᐊᓂᖕᒋᓐᓄᑦ ᐱᖁᓯᖕᒋᑕ ᓇᓄᐃᑦ, (ᓰᕐᓗ ᓄᓇᒦᓐᓂᖅᓴᐅᓕᕐᓂᖕᒋᑦ ᐅᕙᓘᓐᓃᑦ ᓄᓇᓕᓄᐊᕐᑕᑕᕐᓂᖕᒋᓐᓄᑦ). ᐅᕝᕙᓘᓐᓃᑦ ᐊᑕᖕᒋᕐᓗᒋᑦ ᐱᖓᓱᑦ ᐱᔾᔪᑕᐅᔪᑦ.

<u>ᒥᐊᓂᕐᓯᓂᒃᑯᑦ ᐃᓱᒪᒋᔭᐅᔫᒃᓴᐃᑦ</u>

- ᓇᓐᓄᒐᓱᓐᓂᖅ ᐃᓄᐃᑦ ᐃᓕᖅᑯᓯᖕᒋᓐᓄᑦ ᐱᒻᒪᕆᐅᕗᖅ

- ᓄᓇᓖᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᕆᐊᓖᑦ ᖃᓄᑎᒋᖅ ᐊᑦᑕᓇᑐᐃᓐᓇᕆᐊᓕᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᕆᐊᖅ ᐅᑯᐊ ᑕᒪᕐᒥᒃ ᐱᔾᔪᑎᒋᓗᒋᑦ:

    1. ᐊᑦᑕᓇᕐᓂᖕᒋᑦ ᐃᓅᓐᓄᑦ - ᓇᓄᐃᑦ ᐅᓄᓗᐊᕐᓂᖕᒋᓐᓄᑦ ᓇᓄᕐᑕᐅᒐᓱᐊᕆᐊᖃᕿᑎᒃ ᐊᑯᓂᐅᔪᒧᑦ ᐊᑦᑐᐃᓂᖃᓂᖕᒋᑦ

    2. ᐊᒥᓲᓗᐊᕐᑐᓂᒃ ᓇᓄᒃᐸᓐᓂᖅ - ᐊᑦᑕᓇᕈᑕᐅᓕᑐᐃᓐᓇᕆᐊᖃᒪᑦ ᐅᓄᕈᓐᓇᐃᕐᐸᓪᓕᐊᓂᖕᒋᓐᓄᑦ ᓇᓄᐃᑦ

- ᑭᓇᓕᒫᖅ ᐱᔪᓐᓇᕐᓂᖃᕐᐳᑦ ᓴᐳᒻᒥᒋᐊᖅ ᐃᒻᒥᓂᒃ

EXECUTIVE SUMMARY

- ᓇᓐᓄᕙᓯᐊᕈᓐᓇᕐᓂᖅ ᑕᒪᐃᓐᓄᑦ ᐊᑐᕐᑕᐅᔪᓐᓇᕐᓂᐊᕐᑎᓪᓗᒍ ᐃᓚᐃᓐᓈᖕᒋᓐᓂᒃᑯᑦ
- ᐃᓕᖅᑯᓯᖃᓂᐊ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐱᓕᕆᖃᑎᑦᕆᑦᓯᐊᕐᓂᖅ ᐱᒻᒪᕆᐅᓗᒋᔭᐅᒻᒪᑦ ᓄᓇᕗᒻᒥ ᐃᓄᓐᓄᑦ ᐊᒻᒪ ᐃᓚᒋᓕᐅᑎᔭᐅᔾᔭᐅᔪᖅ ᒥᐊᓂᕐᓯᓂᒃᑯᑦ
- ᐋᖅᑭᒋᐊᕆᐊᖃᖅᐳᑦ ᐱᓕᕆᒍᓯᐊ ᐃᓚᒋᓕᐅᑎᑦᓯᓂᒃᑯᑦ ᐸᐃᓇᐃᓂᕐᒧᑦ, ᑲᑎᒪᑎᑦᓯᓂᕐᒧᑦ, ᐊᒻᒪ ᕿᒥᕐᕈᓂᕐᒧᑦ ᖃᐅᔨᓴᕈᑕᐅᓯᒪᓗᑎᒃ ᓴᖅᑭᓯᒪᔪᓂᒃ.
- ᐃᓱᒫᓗᒍᑎᖃᖅᐳᑦ ᓇᓄᐃᑦ ᑯᖓᓯᕈᖅᑕᐅᓂᓐᓂᖕᒋᓐᓂᒃ ᖃᐅᔮᓴᕐᓂᕐᒧᑦ ᐊᑲᐅᖕᒋᓕᑎᑦᓯᒍᓐᓇᕐᒪᑕ ᖃᓄᐃᓐᓂᖕᒋᓐᓂᒃ (ᐱᓗᐊᕐᑐᒥᒃ ᐊᕐᓇᐃᑦ ᓇᓄᐃᑦ)

ᑲᑎᒪᑎᓪᓗᒋᑦ ᑐᓪᖓᓂ ᐅᓪᓗᒥ ᐅᖃᐅᓯᖃᓗᐊᓚᐅᕐᑐᑦ ᐊᑐᓕᕐᑕᐅᖁᔭᐅᓯᒪᔪᓂᒃ ᒥᐊᓂᕐᓯᓂᕐᒧᑦ ᑐᕌᖓᐅᖓᐅᕙᓪᓕᐊᖓᔭᕐᑐᓂᒃ, ᐃᓱᒪᒋᔭᐅᔪᓂᒃ ᐃᓱᓕᑦᑕᐅᑎᖃᕈᑕᐅᖓᑎᒃ ᐆᒪᔪᕋᓯᐊᕈᓐᓇᕐᓂᕐᒧᑦ, ᐊᒻᒪ ᓇᓗᓇᐃᕐᓯᓂᕐᒥᒃ ᐅᒪᔪᕐᑕᐅᔪᓐᓇᕐᑐᓂᒃ. ᑲᑎᒪᓂᕐᒥᒃ ᑐᑭᒧᐊᕐᑎᑦᓯᔪᖅ ᐊᖅᑭᒃᓯᐃᓚᐅᕐᑐᑦ ᓇᐃᓪᓕᒋᐊᕐᓯᒪᔪᓂᒃ, ᐊᒻᒪ ᑲᑎᒪᔪᓄᑦ ᐊᖏᕐᑕᐅᓪᓗᓂ, ᐅᖃᐅᓯᐅᓯᒪᔪᓂᒃ ᐊᒻᒪ ᓴᖅᑭᓚᐅᕐᑐᓂᒃ ᑐᓪᓕᒥ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐅᑯᓂᖓ:

<u>ᐊᖏᖃᑎᒌᓐᓂᖅ ᐃᖅᑲᓇᐃᔭᖃᑎᒌᑦᑐᒃᓴᐅᓂᕐᒧᑦ</u>

- ᐃᑲᔪᕐᓯᔭᐅᕙᓪᓗᑎᒃ ᑲᑎᒪᔩᑦ/ᑲᑎᒪᔩᕐᔪᐊᓪᓗ ᑲᑎᒪᓂᖃᕐᑎᓪᓗᒋᑦ; ᑲᑎᒫᑐᐃᓐᓇᐃᓪᓗ ᐱᓕᕆᖃᑎᒌᑦᑐᑦᓴᐅᔪᑦ - ᑖᒃᑯᓂᖓᑦᓴᐃᓐᓇᖅ ᐱᓕᕆᖕᒋᓪᓗᑎᒃ ᐃᒻᒥᒃᑯᑦ, ᑭᓯᐊᓂ ᐃᑲᔪᖃᑦᑕᐅᑎᓗᑎᒃ ᐊᑐᕐᓗᑎᒃ ᐃᑲᔪᕈᑎᒃᓴᓂᒃ
- ᐱᓇᓱᖃᑎᖃᕆᐊᓖᑦ ᐊᑐᕐᓗᑎᒃ ᒪᓕᒐᑎᒍᑦ ᐊᑐᐊᒐᕐᓂᒃ ᓄᓇᑖᕐᓯᒪᓂᕐᒧᑦ ᐊᖏᖃᑎᒌᒍᑎᓂ

<u>ᓄᑖᑦ ᒥᐊᓂᕐᓯᓂᒃᑯᑦ ᑐᕌᒐᖅᑦ</u>

- ᐅᑯᐊ ᐃᓱᒪᒋᓗᒋᑦ:
    - ᓇᓄᐃᑦ ᖃᓄᐃᓐᓂᖕᒋᑦ ᖃᓄᐃᖕᒋᓐᓂᕐᓴᐅᕙᒻᒪᑕ ᖃᐅᔨᓴᖅᑎᒻᒪᕇᑦ ᖃᐅᔨᒪᓂᕋᖅᑕᖕᒋᓐᓂᑦ
    - ᐃᓱᒫᓗᒍᑎᖃᕐᑐᑦ ᐊᑦᑕᓇᖕᒋᑦᑐᒥᒋᐊᖃᓂᖕᒋᓐᓂᒃ ᐃᓄᐃᑦ ᐊᒥᓲᓗᐊᓕᕐᒪᑕ ᓇᓄᐃᑦ ᐅᓪᓗᒥ
    - ᐃᒃᐱᒍᓱᑦᓯᐊᕆᐊᖃᖅᐳᑦ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᖃᐅᔨᒪᔭᑐᖃᖕᒋᑦ (ᐃᓄᐃᑦ ᐊᒻᒪ ᐊᓪᓚᐃᑦ) ᒥᐊᓂᕐᓯᓂᒃᑯᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᕐᐸᓪᓕᐊᔪᓄᑦ
- ᑲᑎᒪᔪᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᕐᑐᑦ ᒪᕐᕉᓐᓂᒃ ᒥᐊᓂᕐᓯᓂᕐᒧᑦ ᑐᕌᒃᓴᓂᒃ:
    1. ᐅᓄᕐᓯᕙᓪᓕᐊᑉᐸᑕ ᐆᒪᔪᕐᑕᐅᔪᓐᓇᕐᑐᑦ
    2. ᐅᓄᕐᓯᕙᓪᓕᐊᓗᑎᒃ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᐃᓚᐅᓂᖕᒋᑦ ᒥᐊᓂᕐᓯᓂᕐᒧᑦ ᓇᓄᕐᓂᒃ
- ᑲᑎᒪᔪᑦ ᐃᓱᒫᓗᒍᑎᖃᓚᐅᕐᒥᔪᑦ ᓇᓄᕐᓂᒃ ᑯᖓᓯᕈᓯᕐᑐᐃᕙᓐᓂᕐᒥᒃ ᐊᒃᑐᐃᓂᖃᕈᓐᓇᕐᒪᑦ ᓇᓄᕐᓄᑦ (ᐱᓗᐊᕐᑐᒥᒃ ᐊᕐᓇᓂᒃ) ᐊᒻᒪ ᖃᐅᔨᓴᕐᑏᑦ ᐸᕝᓴᑉᐸᒻᒪᑕ ᐊᕐᓇᐅᓂᖕᓴᓂᒃ ᓇᓄᕐᓂᒃ ᐊᒻᒪ ᑕᒪᓐᓇ ᓄᖅᑲᖓᐊᓕᒃ.

EXECUTIVE SUMMARY

ᓂᑭᐊᕐᓯᓂᖅ ᐊᕐᓇᓂᒃ/ᐊᖑᑎᓂᒃ ᓇᓄᕐᓂᒃ ᐊᒻᒪ ᐊᓯᖏᑦ ᑯᑕᖃᕆᑕᐅᕆᐊᖃᖏᑦᑐᑦ ᐃᓱᒪᒃᓴᕐᓯᐅᕆᑕᐅᔭᕆᐊᓖᑦ ᐊᒻᒪ ᐃᓱᒫᓗᑐᑕᐅᓂᖏᑦ

- ᑕᒪᓐᓇ ᓇᓪᓕᑳᕆᐊᖃᓂᖅ ᓇᓕᐊᓐᓂᒃ ᐊᖑᑎᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐊᖑᑎᓂᒃ ᐊᑯᓐᓂᖏᓐᓃᒻᒪᑦ / 2:1 ᐊᑯᓐᓂᖏᓂ ᐊᒻᒪ ᑕᒪᓐᓇ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᖃᐅᔨᒪᔭᑐᖃᖏᓐᓂᖔᖏᒻᒪᑕ; ᐊᑲᐅᖏᓈᕐᑐᒃᑯᑦ ᐊᑲᐅᖏᓕᐅᕆᑕᐅᓯᒪᔪᑦ ᐊᓯᖏᓐᓄᑦ ᐆᒪᔪᓄᑦ

- ᐃᓱᒫᓗᑐᑕᐅᔪᑦ ᐅᖃᐅᓯᐅᓚᐅᕐᑐᑦ ᖃᓄᖅ ᐊᒃᑐᐃᓂᖃᓂᖏᓐᓂᒃ ᐊᖑᑕᐅᓂᕐᓴᓂᒃ ᓇᓄᕐᓂᒃ ᐊᖑᓇᓱᑉᐸᓐᓂᐅᑉ ᐊᑲᐅᖏᑦᑐᒃᑯᑦ.

- ᐃᓕᓴᐃᓂᖅ ᒪᒃᑯᓐᓂᕐᓴᓂᒃ ᐆᒪᔪᕐᓯᐅᕐᑎᓂᒃ ᐃᓕᓴᐃᓂᖅ ᐱᒻᒪᕆᐅᒻᒪᑦ, ᖃᐅᔨᒪᕆᐊᖃᒪᑕ ᓇᓄᕐᓂᒃ ᓇᓕᐊᖑᒻᒪᖔᑕ ᐊᖑᑎᑦ/ᐊᕐᓇᐃᓪᓘᓐᓃᑦ

- ᐊᔪᖏᑎᑕᐅᕆᐊᖃᕋᓗᐊᕐᒪᑕ ᓇᓄᒐᓱᒋᐊᖅ ᐊᖑᑕᐅᓂᕐᓴᓂᒃ ᐊᕐᓇᐅᖏᑦᑐᓂᒃ, ᑭᓯᐊᓂᓗ ᐅᑯᐊ ᐋᖅᑭᕆᐊᕐᓗᒋᑦ 2:1 ᐊᑐᕐᑕᐅᕙᑦᑐᖅ

- ᐃᓱᒪᓗᑐᑕᐅᒻᒪᑦ ᐊᖑᑕᐃᓐᓇᕐᓂᒃ ᓇᓐᓄᒍᓐᓇᕐᓂᖅ

- ᐊᑎᕐᑕᐅᑦ ᐊᖑᓇᓱᑦᑕᐅᓗᐊᕐᐸᖏᑦᑐᑦ, ᓄᓇᕗᒻᒥ ᐱᔪᓐᓇᐅᑎᖃᕆᑕᐅᕆᐊᓖᑦ ᐊᒻᒪ ᑭᓯᐊᓂᓗ ᐃᓚᐃᓐᓇᓚᐅᓱᖓ ᑕᐃᒪᐃᓱᒍᒻᒪᑕ ᕐᑯᕕᐊᓱᒍᑎᓂᒃ

- ᓇᓄᕐᓂᐊᕐᓂᖅ ᑕᐅᕐᓯᖃᑦᑕᐅᑕᐅᕆᐊᖃᖏᒻᒪᑦ

- ᐅᖑᓇᓱᒍᒪᓂᕐᓴᐅᒻᒪᑕ ᑭᓯᐊᓂ ᐆᒪᔪᑦ ᓈᒻᒪᑦᓯᑦᓯᐊᕐᑎᓪᓗᒋ; ᐊᐅᔭᒥᓗ ᓂᕿᑦᓯᐊᕙᐅᓪᓗᑎᒃ ᒪᒪᓂᕐᐸᐅᑎᓪᓗᒋᑦ, ᑭᓯᐊᓂ ᐊᒥᖏᑦ, ᐱᐅᖏᓐᓂᕐᓴᐃᑦ ᐊᐅᔭᒃᑯᑦ.

- ᐃᑲᔪᕐᓯᔭᐅᖏᓚᖅ ᓇᓄᐃᑦ ᐺᕐᓯᒪᔭᐅᕙᓐᓂᖏᓐᓂᒃ ᑕᑯᔭᒐᖃᕐᕕᓐᓂ

ᐃᓚᖏᑦ ᐊᖑᓇᓱᑦᑕᐅᔪᓐᓇᕐᑐᑦ

- ᖃᑦᓯᓂᒃ ᐆᒪᔪᕈᓐᓇᕐᓂᖅ ᐅᖃᐅᓯᕆᔭᐅᔪᒃᓴᐅᕗᖅ ᓯᕗᓂᑦᑎᓐᓂᒃ ᑲᑎᒪᑎᑦᓯᖃᑎᖃᕐᓗᑎᒃ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ

- ᖃᑦᓯᓂᒃ ᐆᒪᔪᕈᓐᓇᕐᓂᖅ ᐃᓚᐃᓈᕈᑕᐅᖏᓪᓗᓂ ᐊᒻᒪ ᑕᒪᐃᓐᓄᐊᖓᓗᓂ

- ᐃᓱᒪᒃᓴᕐᓯᐅᖃᓯᐅᑎᓗᒋᑦ ᐱᖓᓲᒻᒪᑕ ᓄᓇᓖᑦ ᐊᕕᒃᑐᕐᓯᒪᓂᖏᑦ ᓄᓇᕕᒻᒥ ᐊᑕᐅᓯᐅᑎᓪᓗᒍ ᓄᓇᕕᒃ

- ᑐᒃᓯᓇᑦᓯᐊᖏᒻᒪᑕ ᒪᓕᑦᑕᐅᔭᕆᐊᓖᑦ ᓇᓗᓇᐃᔭᐃᓂᕐᒧᑦ ᐆᒪᔪᕐᑕᐅᔪᓐᓇᕐᑐᑦ ᖃᑦᓯᐅᓂᖏᓐᓂᒃ ᐋᖅᑭᒃᓱᐃᓂᕐᒧᑦ

- ᐊᓪᓛᑦ ᐃᓄᐃᑦ ᐃᓄᒋᐊᒃᓯᕚᓪᓕᕐᓯᒪᓂᖏᑦ ᐃᓱᒪᒋᔭᐅᕆᐊᓖᑦ ᐃᓱᒪᒃᓴᕐᓯᐅᕈᑎᖃᓕᕐᐸᑕ

- ᐃᓚᒋᓕᐅᑎᔪᓪᓗᒋᑦ ᐃᓕᖅᑯᓯᑎᒍᑦ ᖃᐅᔨᒪᔭᑐᖃᐃᑦ ᐊᒻᒪ ᐱᖅᑯᓯᖏᑦ

EXECUTIVE SUMMARY

- ᐱᓇᓱᖃᑎᖃᕆᐋᓖᑦ ᐃᓄᓐᓂᒃ ᖃᐅᔨᒪᔭᑐᖃᓕᓐᓂᒃ ᐊᑐᕐᓂᐊᕈᑎᒃ ᑕᒻᒪᕐᑕᕐᓯᒪᙱᑦᑐᓂᒃ ᖃᐅᔨᓴᕈᑎᕗᓂᕐᓂᒃ -ᐅᓪᓗᒥ ᖃᐅᔨᓴᕐᑎᒻᒪᕇᑦ ᖃᐅᔨᓴᕐᓯᒪᔭᙱᑦ ᓄᑕᐅᙱᓗᐊᓕᕐᒪᑕ

- ᐃᓚᐅᑎᑕᐅᓂᖅᐅᖃᑦᑕᕆᐊᖃᕐᐳᑦ ᐃᓄᐃᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᓕᕐᐸᑕ ᖃᑦᓯᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐆᒪᔪᕈᓐᓇᕐᓂᕐᒧᑦ (ᐃᓱᒪᓕᐅᕈᑎᖃᙱᙳᕐᓗᑎᒃ ᖃᐅᔨᓴᕐᑎᒻᒪᕇᑦ ᖃᐅᔨᓴᕐᓂᑯᙱᓐᓂᒃ ᓇᐃᓴᐅᑎᓂᒃ ᒪᓕᙱᙴᕐᓗᑎᒃ)

ᐊᒻᒪᓗᑦᑕᐅᖅ ᐊᓯᖃᓚᐅᕐᒥᔦᑦ ᐅᖃᐅᓯᐅᓯᒪᔦᑦ ᑐᓂᔭᐅᓚᐅᕐᑐᑦ ᑐᑭᒧᐊᕐᑎᑦᓯᔨᒧᑦ ᑲᑎᒪᓂᕐᒥᒃ, ᑲᑎᒪᔦᑦ ᐅᖃᐅᓱᖃᕈᓐᓇᓚᐅᕐᒪᑕ ᐃᓱᒪᒋᔭᐅᔦᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐆᒪᔦᑕᐅᔦᓐᓇᕐᑐᑦ ᒥᒃᓵᓄᑦ. ᓄᓇᕗᒻᒥᑦ ᐃᓄᐃᑦ ᐅᖃᖅᓯᒪᒻᒪᑕ ᑲᑎᓪᓗᒋᑦ ᐆᒪᔦᕐᑕᐅᒍᓐᓇᕐᑐᓂᒃ ᓄᓇᕗᒥ ᓱᕐᕋᔮᙱᓐᓂᙱᓐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐅᓄᕐᓯᒋᐊᕐᓗᒋᑦ, ᓄᓇᕕᒻᒥ ᐃᓄᐃᑦ, ᑲᔦᓯᑎᑕᐅᓪᓗᑎᒃ ᒪᑭᕙᒃᑯᓐᓄᑦ, ᐅᖃᕐᓯᒪᔦᑦ ᐃᓱᒫᓗᒍᑎᖃᓗᐅᙱᒻᒪᑕ, ᐃᓱᓕᑦᑕᕐᕕᖃᕆᐊᖃᓂᙱᑦ ᐆᒪᔦᕐᑕᐅᔦᓐᓇᕐᑐᑦ ᓱᕐᕋᒋᐊᖃᙱᒻᒪᑕ - ᐃᓄᐃᑦ ᐱᖅᑯᓯᑐᖃᙳᑎᒍᑦ ᓇᓄᐃᑦ ᓴᐳᒻᒥᔭᐅᑦᓯᐊᕐᒪᑦ ᓇᓄᐃᑦ.

ᑲᑎᒪᐅᑉ ᓄᖅᑲᕐᓂᐊᓂ ᓴᖅᑭᑎᑦᓗᑎᒃ ᓇᐃᓪᓕᒋᐊᕐᓯᒪᔦᓂᒃ ᐱᔾᔦᑎᖃᕐᑐᓂᒃ ᖃᓄᐃᓘᕐᑑᒃᓴᐅᓂᐊᓕᕐᒪᙶᑕ ᐋᖅᑭᒃᓱᐃᕙᓪᓕᐊᓗᑎᒃ ᕿᒥᕐᕈᓂᕐᒧᑦ ᑲᑎᓪᓗᒋᑦ ᐆᒪᔦᕐᑕᐅᒨᓇᕐᑐᑦ ᒥᒃᓵᓄᑦ ᐊᒻᒪ ᐱᓂᐊᕐᓂᖃᕐᓱᑎᒃ ᑐᓴᐅᒪᖃᑎᒌᓐᓂᕐᒥᒃ ᑲᑎᕐᓱᐃᓂᒃᑯᑦ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᓂᒃ, ᑕᐅᕐᓯᖃᑦᑕᐅᑎᓂᒃᑯᑦ, ᐊᒻᒪ ᐃᓱᒪᓕᐅᕐᕈᑎᖃᓂᒃᑯᑦ. ᐅᑯᐊ ᑖᕝᕙ ᑲᒪᒋᒋᐊᖃᓕᕐᑕᙱᑦ:

- ᐸᕐᓇᐃᓂᖅ ᑐᓴᕈᑎᒃᓴᓂᒃ ᓇᐃᓪᓕᒋᐊᕐᓯᒪᔦᓂᒃ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᓂᒃ ᑕᒪᐃᓐᓄᑦ ᐊᒻᒪ ᑭᐅᔭᐅᒍᑎᓂᒃ ᑲᑎᒪᖃᑕᐅᓯᒪᔦᓄᑦ, ᐊᒻᒪ ᓄᓇᓕᓐᓂ ᑲᑎᒪᓂᖃᓂᑯᓂᒃ.

- ᑐᓂᔭᐅᓯᒪᓪᓗᑎᒃ ᒐᕙᒪᙱᓐᓄᑦ ᓄᓇᕗᑦ, ᑯᐸᐃᒃ, ᐊᒻᒪ ᑲᓇᑕᒥ ᑲᑎᒪᔩᓄᑦ/ᐊᙳᓇᑐᓕᕆᓂᕐᒧᓪᓗ ᑲᑎᒪᔩᓄᑦ ᕿᓄᕕᒋᓪᓗᒋᑦ ᑲᑎᒪᔩᑦ/ᐊᙳᓇᓱᑦᑐᓕᕆᓂᕐᒧᓪᓗ ᓄᓇᓕᓐᓂ ᑲᑎᒪᔩᑦ ᕿᒥᕐᕈᒃᑲᓐᓂᕐᑯᓪᓗᒋᑦ ᐅᓪᓗᒥ ᖃᓄᐃᓪᓗᐊᕐᑐᓂᒃ ᐆᒪᔪᕈᓐᓇᕐᓂᕐᒧᙳᔦᓂᒃ ᓄᑖᓂᒃ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᕐᑕᖃᓕᕐᑎᓪᓗᒍ ᐅᓪᓗᒥ ᓇᓄᐃᑦ ᒥᒃᓵᓄᑦ, ᐊᙳᓇᓱᓐᓂᕐᒧᓪᓗ ᖃᐅᔨᓴᐅᑎᕗᓃᑦ ᑐᓴᕈᑏᑦ, ᐊᒻᒪ ᐅᖃᖃᑎᒌᓐᓂᒃᑯᑦ ᑐᓴᕋᒃᓴᐃᑦ.

- ᑲᑎᒪᔨᐅᔦᑦ/ᐊᓯᐅᓪᓗ ᓄᓇᓕᓐᓂ ᑲᑎᒪᔨᐅᑦ ᐃᓱᒪᓕᐅᕈᑎᖃᓗᑎᒃ ᖃᓄᐃᓪᓗᐊᕐᑐᓂᒃ ᐆᒪᔦᕐᓯᐅᕈᓐᓇᕐᓂᐅᑉ ᒥᒃᓵᓄᑦ ᐅᕝᕙᓘᓐᓃᑦ ᕿᒥᕐᕈᒃᑲᓐᓂᕐᓗᒋᑦ ᐊᒻᒪ ᐊᑐᕐᑕᐅᓂᐊᕐᑐᑎᓪᓗᒋ5 ᐱᓕᕆᐊᕆᔭᙱᓐᓄᑦ ᑐᑭᒧᐊᕈᑕᐅᓗᑎᒃ (ᓲᕐᓗ ᑕᒪᐃᓐᓂᒃ ᑲᑎᒪᑎᑦᓯᓂᒃᑯᑦ, ᑎᑎᖃᑎᒍᓪᓘᓐᓃᑦ ᓇᓚᑦᑎᑦᓯᓂᖅ, ᐊᓯᙱᓪᓗ).

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Southern Hudson Bay Polar Bear Subpopulation Harvest Re-assessment: Consultation Report

Report to Southern Hudson Bay Polar Bear Advisory Committee from the Southern Hudson Bay Polar Bear Consultation Working Group

24 June 2020

Prepared by: Caryn Smith (Nunavut Department of Environment); Gregor Gilbert (Makivik Corporation); Paul Irngaut (Nunavut Tunngavik Inc.); Sam Iverson (Environment and Climate Change Canada); Alan Penn (Cree Nation Government); Marie-Claude Richer and Guillaume Szor (Ministère des Forêts, de la Faune et des Parcs du Québec); Angela Coxon (Eeyou Marine Region Wildlife Board)

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1. EXECUTIVE SUMMARY

A new abundance estimate for the Southern Hudson Bay Polar Bear Subpopulation has been accepted by management authorities. This has triggered the re-assessment of current Total Allowable Harvest (TAH) / Total Allowable Take (TAT) limits within the range of this subpopulation.

To promote cooperation and coordinated decision-making, the Southern Hudson Bay Polar Bear Advisory Committee was formed (hereafter, Advisory Committee). Advisory Committee representatives include Federal, Provincial and Territorial Governments (Canada, Nunavut, Québec, Ontario) and Inuit/Cree Land Claim Organizations (Nunavut Tunngavik Incorporated, Makivik Corporation, Cree Nation Government), with Wildlife Management Boards (Nunavut Wildlife Management Board, Nunavik Marine Region Wildlife Management Board, Eeyou Marine Region Wildlife Management Board) and the Hunting, Fishing and Trapping Coordinating Committee participating as observers.

A Technical Working Group reporting to the Advisory Committee prepared two reports: (1) *Southern Hudson Bay Polar Bear Subpopulation Status Report, September 2019* and (2) *Provisional Harvest Risk Assessment for the Southern Hudson Bay Polar Bear Subpopulation, June 2019* (hereafter, Subpopulation Status Report and Harvest Assessment Report, respectively).

The two technical reports were shared by email attachment with Inuit and Cree local and regional hunting and trapping / wildlife organizations in January 2020 and community engagement sessions were conducted in Inukjuak, QC (January 27, 2020), Umiujaq, QC (January 28, 2020) and Kuujjuaraapik, QC (January 30, 2020) that were led by Canadian Wildlife Service and Makivik Corporation representatives (with input from Ministère des Forêts, de la Faune et des Parcs du Québec). A community engagement session was held in Sanikiluaq, NU (February 11, 2020) that was led by the Government of Nunavut Department of Environment and attended by representatives from Nunavut Tunngavik Incorporated, the Qikiqtaaluk Wildlife Board, and the Nunavut Wildlife Management Board. Outreach to Eeyou Istchee Cree was via written materials and teleconference and was led by the Eeyou Marine Region Wildlife Board, Cree Nation Government and Cree Trappers Association. Finally, outreach to Ontario Cree was by written materials and an in-person engagement session in Peawanuck, ON (December 10, 2020) that was led by Canadian Wildlife Service (with input from the Ontario Ministry of Natural Resources and Forestry).

On February 25-26, 2020 a user-to-user meeting was held in Montreal, QC. The meeting was co-chaired by Adamie Delisle Alaku from Makivik Corporation and James Eetoolook from Nunavut Tunngavik Incorporated and brought together users from throughout the region. In total, there were 57 participants at the meeting, representing the Sanikiluaq HTO, Inukjuak LNUK, Umiujaq LNUK, Kuujjuarapik LNUK, Cree Trappers Association (community level), Qikiqtaaluk Wildlife Board, Nunavik RNUK, Nunavut Tunngavik Incorporated, Makivik Corporation, Cree Nation Government, Cree Trappers Association (executive), Nunavut Wildlife Management Board, Nunavik Marine Region Wildlife Board, Eeyou Marine Region Wildlife Board, Hunting, Fishing and Trapping Coordinating Committee, University of Washington (expert modeler), and the Governments of Canada, Nunavut Québec and Ontario.

The presentation delivered at the user-to-user meeting included the same technical information that was presented in the community engagement sessions, as well as discussion points to guide the conversation.

The morning of the first day included a welcome and opening prayer, opening remarks from the co-chairs, and presentations by management authorities explaining the meeting purpose, key findings of the Subpopulation Status Report, and key findings of Harvest Assessment Report.

The afternoon of the first day focused on hearing Indigenous Knowledge from Nunavut Inuit, Nunavik Inuit, and Eeyou Istchee Cree participants.

Several key statements capturing the overall message of the participants on the first day were noted. Among these was:

- Nunavut Inuit: *Our forefathers were constantly hunting seals and didn't see a lot of bear. Numerous bears are a nuisance to people. They endanger lives and impact eider colonies and seal populations. We feel that a higher removal rate will not lead to the extinction of polar bears. There will be a lot of debate between scientific views and Indigenous views. Not including Indigenous views is very frustrating to us. These are our lives that are at stake, and our hunters are not being heard.*

- Nunavik Inuit: *In the 1980s I harvested with my parents. Usually, there were no polar bear tracks and bears only had one cub. Now we see 2-3 cubs and there have been fatal maulings of Inuit (in Nunavut). Once the ice melts, the polar bear lands and disturbs the community. I don't know where the idea came from that as ice melts the polar bear declines. We want to manage ourselves, not to be told by people from other countries.*

- Eeyou Cree: *It is hard to come to grips with the numbers from the aerial surveys. I represent 6000 Cree hunters from the coast and they talk about polar bear. A hunter from Waskaganish, after he was married in 1947, went to Charlton Island and saw no polar bears in 40 years. He told me he saw 12 polar bears just this last spring. This supports what the people from the north are saying. The scientific knowledge doesn't correspond to what we see.*

The meeting facilitator (Carole Spicer) summarized the key points and outcomes of first day as follows:

<u>Meeting purpose</u>

- Government representatives and Inuit/Cree knowledge holders are here to share information. The objective of this exchange is so that users can make well-informed recommendations to the Wildlife Management Boards about the level of harvest and other non-quota limitations moving forward.

- Government representatives are not here to impose a quota or decide the number of tags that will be issued for each community. They are sharing information collected over the last few decades using a scientific approach. In the same way, Inuit and Cree are sharing the information gathered in their own way with other communities, jurisdictions and researchers.

- All of the information shared at this meeting is evidence that users can be applied to help them determine what their recommendations will be to the Wildlife Boards when the Wildlife Boards make harvest quota decisions.

Scientific observations

- The 2016 aerial survey estimate replaces the 2011/2012 estimate as the best available estimate of subpopulation size. It is lower, however the error estimates are overlapping.

- Other signs such as lower litter size, a low proportion of yearlings, declining body condition and declining survival, are concerns that coincide with environmental change.

Indigenous Knowledge

- Inuit and Cree communities have been experiencing a higher level of human – polar bear interactions. Human safety concerns and impacts of polar bears on other wildlife (seals, eider ducks) are severe.

- The increase in polar bear encounters could be a result of a higher abundance of bears, changing distribution of bears, or changing behaviour by bears (such as spending more time on land and closer to settlements). It could be a combination of all three.

Management considerations

- Polar bear harvest is culturally important to Inuit

- Communities must determine what level of risk they are willing to take regarding both:

    1. The potential for human - polar bear conflicts that might result from maintaining a large subpopulation to maximize harvest opportunity in the long-term

2. The impacts of a higher level of harvest, which could become detrimental to the survival of the subpopulation

- Everyone has the right to defend themselves
- Harvest should be shared equitably between all users
- Traditional methods of wildlife stewardship are of great importance to Nunavik Inuit and this should be part of the management
- Improvements should be made to include users in the planning, conducting, and analysis of survey results.
- There are concerns that collaring polar bears for research purposes is negatively impacting health of polar bears (especially females)

The second day was devoted to a discussion among users about recommended management objectives, views on non-quota limitations, and the allocation of harvest among user groups. The meeting facilitator summarized, and the participants agreed, that the key points and outcomes of the second day were as follows:

Agreement to Work Together

- Support for joint board/council hearings; Boards should work together – not just on overlapping issues, but on a shared resource
- Essential to work within the legal framework of the land claim agreements

New management objective

- Considering that:
    - Polar bear health is better than presented by scientists
    - There are concerns about the safety of people with the current abundance of polar bears
    - There is a need to ensure that Indigenous knowledge (Inuit and Cree) is properly included in management decision processes
- Users identified two management objectives:

1. Increasing harvest level
2. Increasing Indigenous participation in management of polar bears

- Users also noted concerns that collaring is negatively impacting the health of polar bears (especially females) and that research practices by scientists are interrupting mother bears and this should be discontinued.

Sex-selective harvest and other non-quota limitation considerations and concerns

- Sex-selective harvest targeting males at a 2:1 ratio is not based on Indigenous Knowledge; negative experience seen when this has been done in other species
- Concerns expressed about the potential impacts of ending male-biased harvest could have on trade.
- Training for younger hunters is important, as identifying sex requires experience
- There should be allowance to harvest more males than females, but it should not be fixed at a 2:1 ratio
- Always targeting the largest males is a concern
- Cubs are rarely hunted, in Nunavut it requires a permit and is for special occasions
- Polar bear harvesting is not just for trade
- Prefer to hunt when the animals are in their prime; in summer the taste is the best, but for fur, hunting in the summer is not good.
- Do not support polar bears in zoos

Proportional allocation of harvest

- The allocation of harvest should be discussed down the road with a joint hearing of the wildlife boards
- Allocation should be fair and equitable
- It should be taken into consideration that there are 3 communities in Nunavik versus 1 community in Nunavut
- There is a lack of clarity on the criteria used to allocate harvest
- The fact that the Inuit population is increasing should be taken into consideration
- Incorporate cultural knowledge and tradition
- Work with Inuit knowledge for accurate data analysis - current scientific data is outdated

- There is a need for more involvement with Inuit when determining TAH (rather than only basing the decision on given abundance numbers given by scientists)

In addition to the notes presented back to the participants by the facilitator, the participants had a discussion about recommended TAT/TAH. While Nunavut Inuit had previously indicated that TAH in Nunavut should remain the same or increase, Nunavik Inuit, led by Makivik, indicated that given there is no conservation concern, no limit on harvest need be established – Inuit traditional practices are sufficient to protect the population.

The meeting concluded with a summary of next steps in the process to re-assess TAH / TAT levels and commitment to continuing dialog to ensure collaborative information gathering, exchange, and decision-making. Next steps include:

- Preparation of a Consultation Report summarizing the information shared and feedback received at the user-to-user meeting, as well as community engagement meetings.

- A submission by the Governments of Nunavut, Quebec, and Canada to the Boards/HFTCC formally requesting that the Boards/HFTCC re-assess existing harvest limits in consideration of the information included in the Subpopulation Status Report, Harvest Assessment Report, and Consultation Report.

- Board/HFTCC determination if TAT/TAHs will be re-assessed and the format they will use to coordinate their efforts (e.g., joint public hearing, written hearing, etc).

2. BACKGROUND

In May of 2018, the Southern Hudson Bay Polar Bear Advisory Committee (hereafter, Advisory Committee) was formed. The purpose of the Advisory Committee is to promote cooperation and coordinated decision-making by co-management partners with responsibility for polar bear management in the Southern Hudson Bay Polar Bear subpopulation. The Advisory Committee is comprised of representatives from the governments of Canada, Nunavut, Quebec and Ontario, as well Nunavut Tunngavik Incorporated, Makivik Corporation, and Cree Nation Government (at the advice of Cree authorities, the Cree Trappers Association will be included in future deliberations). The Nunavut Wildlife Management Board, Nunavik Marine Region Wildlife Board, Eeyou Marine Region Wildlife Board and Hunting, Fishing and Trapping Coordinating Committee participated in Advisory Committee meetings as observers.

The first charge of the Advisory Committee was to coordinate information gathering to support a joint process for determining new Total Allowable Harvest (TAH) / Total Allowable Take (TAT) limits. To that end, a Technical Working Group, which reports to the Advisory Committee, was formed. The Technical Working Group completed two reports: (1) *Southern Hudson Bay Polar Bear Subpopulation Status Report, September 2019* and (2) *Provisional Harvest Risk Assessment for the Southern Hudson Bay Polar Bear Subpopulation, June 2019* (hereafter, Subpopulation Status Report and Harvest Assessment Report, respectively. The Subpopulation Status Report summarizes the best available scientific and Indigenous Knowledge information about polar bear abundance, estimated trend, body condition, reproduction and survival, behaviour, and environmental conditions. The Harvest Assessment Report forecasts the impact of a range of different potential harvest levels on subpopulation abundance in consideration of management objectives and projected changes in future sea ice conditions.

Engagement sessions were held during the fall of 2019 and winter of 2020, wherein the information included in the two technical reports was shared with Indigenous rights holders and questions were asked about community views about polar bear. Engagement occurred through the sharing of written documents, community meetings, and a user-to-user meeting, which brought together rights holder representatives from across the subpopulation. Attachments 1 (Nunavik Inuit), 2 (Nunavut Inuit), and 3 (Ontario Cree) summarize the outcome of community engagement sessions. This report summarizes the outcome of the user-to-user meeting itself.

3. SOUTHERN HUDSON BAY POLAR BEAR USER-TO-USER MEETING

3.1. Purpose and Participants

A user-to-user was held on February 25-26, 2020 at the Courtyard Marriott (Downtown), Montreal, Quebec. The purpose of the meeting was (1) for Indigenous rights holder representatives to meet with management authorities and receive up-to-date scientific and Indigenous Knowledge information from recently completed studies; (2) for

Indigenous representatives to share their views about the status and management of Southern Hudson Bay polar bear, including views relating to management objectives, non-quota limitations, harvest needs, and how harvest quotas are shared among Indigenous user groups (i.e., harvest allocation); and (3) to make consensus recommendations pertaining to management objectives, harvest needs, and harvest allocation (see Appendix A: Letter of Invitation).

The meeting was co-chaired by Adamie Delisle Alaku from Makivik Corporation and James Eetoolook from Nunavut Tunngavik Incorporated. A professional moderator, Carole Spicer, facilitated the meeting. In total, there were 57 participants, representing the following organizations:

Local Hunting and Trapping Organizations and Regional Wildlife Organizations

- Nunavik: Nunavik RNUK, Inukjuak LNUK, Kuujjuarapik LNUK, Umiujaq LNUK
- Nunavut: Qikiqtaaluk Wildlife Board, Sanikiluaq HTO
- Eeyou Istchee: Cree Trappers Association (community-level)

Indigenous Land Claims Organizations

- Makivik Corporation (Makivik)
- Nunavut Tunngavik Incorporated (NTI)
- Cree Nation Government (CNG) and Cree Trappers Association (CTA)

Wildlife Management Boards / Coordinating Committee

- Nunavik Marine Region Wildlife Board (NMRWB)
- Nunavut Wildlife Management Board (NWMB)
- Eeyou Marine Region Wildlife Board (EMRWB)
- Hunting, Fishing and Trapping Coordinating Committee (HFTCC)

Governments

- Environment and Climate Change Canada (ECCC)
- Nunavut Department of Environment (Nunavut DOE)
- Ministère des Forêts, de la Faune et des Parcs du Québec (Québec MFFP)
- Ontario Ministry of Natural Resources and Forestry (Ontario MNRF)

A complete list of user-to-user meeting participants is provided in Appendix B.

Ontario coastal First Nations were engaged prior to the meeting by ECCC. As Ontario Cree do not harvest polar bear under a formal TAT/TAH system, ECCC recommended that engagement would be most productive through a separate process focused on issues of interest in the communities, such as reducing human-polar bear conflict and sharing information about tourism best practices, rather than a user-to-user meeting focused on harvest.

At the user-to-user meeting, the agenda (English and Inuktitut) and presentation slides (English) were projected for all participants to see and follow along (see Appendix C: user-to-user meeting presentation). Copies of the presentation translated into Inuktitut were distributed to all participants requesting them.

In the synopsis below, the names of participants that asked questions for the presenters and/or made remarks are attributed to the organization or community that made them, but not individuals to respect privacy.

3.2 User-to-User Meeting Sessions

3.2.1 Opening remarks and meeting purpose

Welcome delivered by co-chairs Adamie Delisle Alaku (Makivik) and James Eetoolook (NTI). A prayer was delivered, and participants introduced themselves.

Caroline Ladanowski (ECCC) provided an overview about the organizations involved, past voluntary agreements to ensure sustainable harvest, and the decision-making process for determining new TAT/TAHs. It was noted that the completion of a new subpopulation abundance survey in 2016 was the trigger for re-assessing harvest levels. She explained that this meeting is an opportunity for Indigenous rights holders to meet with management authorities and discuss this recent science, as well as Indigenous Knowledge, and make their own recommendations. It was noted that harvest limits will not be determined at this meeting, rather they will be determined by the Wildlife Management Boards and the information shared here will help inform the Boards’ decision processes.

Discussion

- Which survey was used to make the last TAT? Which year was the subpopulation abundance estimate of 943 number established?
    - Answer: The previous estimate was made in 2011-2012 and was the basis for the TAT/TAHs currently in place.
- Was this done without using Inuit Knowledge?
    - Answer: the 943 estimate was made from a strictly scientific survey. However, decisions about TAT/TAHs are made by the Boards and the Boards consider

both science and Indigenous Knowledge in their decision-making. The 943 was arrived at from a study that was strictly scientific.

- Who was involved in making this new abundance estimate – what governments and were Inuit involved?
  - Answer: the next presentation will go over this detail. There were a number of different studies that were completed by different groups of partners. This will be more clear after the presentation.

3.2.2 Subpopulation Status Report

Three presenters shared the information in Appendix C. Joe Northrup (Ontario MNRF) presented the most recent and historical population estimates, as well as information about changes in polar bear body condition, reproduction and survival. Mark Basterfield (NMRWB) presented information derived from several Indigenous Knowledge studies (Nunavik Inuit, Nunavut Inuit, and Eeyou Istchee Cree). Guillaume Szor (Quebec MFFP) presented information about current and historical harvest levels.

Discussion

- Nunavik Inuit representative: What is the basis for number for the estimates on the number of cubs?
  - Government of Ontario: some of the numbers come from aerial surveys, some from recapture studies. Because the methods were different you have to be careful about making direct comparisons of the estimates collected in different years.
- Nunavik Inuit representative: What is the status of the management plan for Quebec?
  - Government of Quebec: consultations have been conducted and a draft has been completed. A working group is making final revisions before the plan is submitted to the NMRWB, EMRWB, and HFTCC.
- A comment was made about the Male/Female ratio (the comment was not translated)
- Nunavik Inuit representative: Was there Inuit participation in aerial surveys?
  - Government of Quebec: Yes. Inuit representatives participated both in the 2012 and 2016 surveys, on the planes and helicopters.
- Nunavik Inuit representative: How close did the survey get to Puvurnituq?

- Government of Quebec: The survey went to the northern limit of the Southern Hudson Bay management unit, which is between Inukjuak and Puvurnituq, as per the flight path on the map.

- Nunavik Inuit representative: In what month were the 2011/2012 and 2016 aerial surveys done?

  - Government of Ontario: September. The survey is timed for when all bears are on shore, before females go into their dens

- Nunavik Inuit representative: How far inland did the survey go in Nunavik? In Ontario?

  - Government of Ontario: 30 km in Nunavik, 60 km in Ontario

- Nunavik Inuit representative: it should go 60km inland as well, more bears are observed inland now.

  - Government of Quebec: the only bears seen in the aerial survey in Quebec in the fall were around Long Island. Biologists intend to do more consultation with Inuit on these matters in order to ensure the best possible survey design in the future.

- Nunavik Inuit representative: How to you choose the Inuit observer?

  - Government of Quebec: in Nunavik, the LNUKs name the person.

- Nunavik Inuit representative: We are concerned this process wasn't respected last time

- Nunavik Inuit representative: did you also go around Bear Island between Kuujjuarapik and James Bay?

  - Government of Quebec: Not sure where Bear Island is, but all of the flight paths were recorded on the map.(Once the location of Bear Island was confirmed, it was confirmed to the participant that this island had indeed been surveyed).

3.2.3. Harvest Risk Analysis

Presentation by Eric Regehr, University of Washington (Appendix C). Eric Regehr is the modeler who conducted in harvest risk analysis in collaboration with the Technical Working Group. His presentation included a description of the modelling approach, the biological scenarios that were examined to account for projected changes in future sea ice conditions, and the model-derived predictions for the impact of harvesting at different levels of intensity.

Discussion

- Nunavik Inuit representative: government has moved very slowly. It is not meeting its own objectives in a reasonable time frame.

- Nunavik Inuit representative: In relation to the point that risk increases if the interval between surveys is lengthened: Inuit try to flag issues and changes in wildlife – it can take a long time for political will to act. Decisions are dependent on Ministers.

  - Eric Regehr: the Technical Working Group recommends that a new survey be completed every 5 years – this has been achieved recently and it is anticipated that they continue to happen every five years.

- Nunavik Inuit representative: Very difficult to work with Minister's view since it's our health and well-being is on the line every day. Minister efforts/timelines do not respect this fact whatsoever.

- Nunavut Inuit representative: What other species have been seen to benefit from this type of modelling?

  - Eric Regehr: This type of modelling approach has been used for many different species, notably waterfowl, and is a common model used in wildlife management. One conclusion of the modelling is that this subpopulation was able to sustain a fairly high level of harvest compared to other subpopulations in the past. It has been quite productive. Work done in the Chukchi Sea west of Alaska indicate that the population was overharvested by a sport hunt, but has increased as a result of stopping the sport hunt.

- Nunavut Inuit representative: Our forefathers were constantly hunting seals and didn't see a lot of bear. Numerous bears are a nuisance to people. They endanger lives and impact eider colonies and seal populations. We feel that a higher removal rate will not lead to the extinction of polar bears. There will be a lot of debate between scientific views and Indigenous views. Not including Indigenous views is very frustrating to us. These are our lives that are at stake, and our hunters are not being heard.

- Nunavik Inuit representative: The Inuit experience is completely different from the numbers.

- Nunavut Inuit representative: This presentation is lacking traditional knowledge.

- Nunavik Inuit representative: In Inukjuak, people are harvesting polar bear because they have to, not because they want to. Polar bears are arriving. Not comfortable with polar bears near homes. Can no longer use igloos because of polar bears. They are vicious animals.

- Nunavik Inuit representative: Regarding the aerial survey estimates of 943 bears in 2011 and 780 bears in 2016 – Why such a drastic drop? Because we caught too many, or because the bears were declined for other reasons, such as starvation or low reproduction, or are the numbers not exact? We didn't harvest many during other years. Sometimes we harvested less than we agreed. We have to make a decision based on that study, we probably will have another study soon. What if they are down to 650 now? Inuit experience is an increase in sightings and an increase in interaction with polar bears, from almost nothing in the 1950s to polar bear warnings now. Why is there such a discrepancy?

  - Eric Regehr: there is uncertainty in aerial survey estimates. We can't say the population has declined by an exact amount. The analysis did account for that uncertainty. Possible reasons the population may be in decline include scientific observations that females are in lower body condition now than in the 1980s and survival of young bears has been lower. The situation is similar in Western Hudson Bay. There may be more bears near the community because they spend a month longer on land now than they used to.

- Nunavik Inuit representative: The presentation shows a lack of use of traditional knowledge. We have experienced polar bears increasing in population. We moved to Inukjuak from camps in 1963. When I was a child in the camps, there were no polar bears, not even tracks. We would have been afraid if tracks had been found. When I was twenty in the 1970s the polar bears started coming back. We have been harvesting now, not because we want to, but because we have to. I'm only talking about Inukjuak. Did you start studying polar bears 100 years ago? When you talk about declining numbers, it means to us that they were in another region and then they moved to our region. In the past, we had dog teams and igloos. We did not worry about surprises because we had our dogs. They will notify you, because if a polar bear wants to attack a human being, it is vicious. We only use cabins now, because you never know what the reaction of a polar bear will be.

- Nunavik Inuit representative: In the 1980s I harvested with my parents. Usually, there were no polar tracks and bears only had one cub. Now we see 2-3 cubs and there have been fatal maulings of Inuit (in Nunavut). Once the ice melts, the polar bear lands and disturbs the community. I don't know where the idea came from that as ice melts the polar bear declines. We want to manage ourselves, not to be told by people from other countries.

- Nunavik Inuit representative: We have seen more and more cubs. Increasing numbers of bears. Bears are a disturbance on land. This is immediate issue and requires real-time strategy.

- Nunavik Inuit representative: Where did they get their Traditional Knowledge to work into the modelling scenarios? Only 3 communities of Traditional Knowledge? There are so many communities…frustration. Why not more?

  - Eric Regehr: In the model, Scenario 1, which assumed polar bear would not be strongly affected by sea ice reductions in the next 30 years, was included on the basis of Traditional Knowledge. Traditional Knowledge was not a big part of the modelling.

- Nunavut Inuit representative: The lack of Traditional Knowledge in the modeling is frustrating.

- Nunavik Inuit representative: We need to incorporate more traditional knowledge. How was Inuit knowledge put into the modelling?

    - Eric Regehr: in Scenario 1 – Inuit knowledge influenced this scenario, which predicts an optimistic future with a population capable of supporting a high level of harvest. This would be the most consistent with Inuit Traditional Knowledge. This is not a claim that all facets of Inuit Traditional Knowledge were incorporated, but one scenario is consistent with Inuit Traditional Knowledge.

- Nunavik Inuit representative: The Inuit Traditional Knowledge shouldn't just come from 3 communities. Was information gathered from Ontario and Sanikiluaq?

- Eeyou Cree representative: it is hard to come to grips with the numbers from the aerial surveys. I represent 6000 Cree hunters from the coast and they talk about polar bear. A unter from Waskaganish, after he was married in 1947, went to Charlton Island and saw no polar bears in 40 years. He told me he saw 12 polar bears just this last spring. This supports what the people from the north are saying. The scientific knowledge doesn't correspond to what we see.

    - Eric Regehr: no scientific knowledge was gathered or used before 1980s. The only indications for decline are between 2011 and 2016. It is possible that the decline between 2011 and 2016 is the start of something, but it is possible that it is just a short term decline. There is no strong scientific evidence now that it is a long term decline.

3.2.4. Indigenous Knowledge Presentations

The Subpopulation Status Report included a summary of recent Indigenous Knowledge studies and consultations that have been conducted and written up as papers or reports. This session of the user-to-user meeting was intended to allow Inuit and Cree participants to state their views and observations and speak on behalf of their communities.

Lucassie Arragutainaq delivered a PowerPoint presentation on behalf of the community of Sanikiluaq which emphasized that Inuit in his community need to hunt for cultural and food reasons. He stated that there is a need to establish natural balance. He indicated that Nunavut Inuit do not hunt polar bear family groups. Cubs can be harvested with permit from the Government of Nunavut. One of the issues being seen is that polar bear are impacting bird colonies. Eider are very important for the diet of local people and one polar bear can eliminate a whole colony. There have been increasing observations of polar bears and bears are damaging human property. The Inuit conception is CREATOR>environment/wildlife>man. Honour the creator. But now we see MAN>environment/wildlife>creator. We are seeking a balanced system: Information > TK, science > Management decision.

Following Lucassie's presentation an open discussion occurred. Each bullet below signifies a different person making the comment.

Discussion

- Nunavik Inuit representative: We need to consider all harvesters in a management plan, not just Nunavut harvesters. Need to consider Nunavimmiut, Quebec and Ontario Cree.

- NTI co-chair: clarifies that Nunavut Inuit can't decide for Nunavik communities. Nunavik Inuit have their own organizations. The Nunavik Wildlife Board can make its own plan. Nunavut cannot tell Nunavik what to do. We have to work within our own Agreements. The Nunavik Inuit and the Cree have to make their own decisions. Our boundaries are an obstacle when we have to work together.

- Makivik co-chair: co-management does not work. We harvest the same wildlife. Wildlife Boards must work together. We need to improve our collaboration. We need to ensure that it can work. Right now, we are not at the same level in our management of the populations. We clash instead of co-managing these resources.

- Nunavik Inuit representative to Nunavut Inuit: your management plan, are you are still under NWT law/jurisdiction? Can you clarify this idea of pre-existing rules and Nunavut's new management plan? It sounds Nunavut does not disagree with the management system that is in place now in Southern Hudson Bay, but you are not alone with that subpopulation. Many groups are in the zone. We can only say that the whole zone needs a management plan. If only some do it, it will be ineffective. Put management plans together and have a common agreement.

- Nunavut Inuit representative: We are used to the management system now. At one time Nunavut was part of NWT, but all of the Nunavut communities got together and in 2019 they started applying a new management plan. Many Nunavut Inuit disagree about the need to harvest males at a 2:1 ratio compared to females. We were asked to kill too many males and want more balance. Now we have a management plan, not everyone agrees with it.

- Inuit representative: Animal rights groups are interfering with the daily life of Inuit. There is a need for more collaboration. Improvement is necessary. We are here because it's not working. Framework and structure is there, we just need to grease the gears and keep working. Very important: why is it that we share the same resources but operate with a lack of cohesion in resource management.

- Cree Trappers Association representative: if we do it piece by piece, it won't work. I'm here to come up with a global plan. We need to compromise, to find a plan that we can be comfortable with and implement it. I'm not going to just manage wildlife my way in my area, it's just not going to work.

- We must compromise and have one management plan that is accepted (regardless of losses/gains) by all.

- Request to see a copy of the Nunavut polar bear management plan.

- Nunavik RNUK: the agreements, from 1975, the implementation has not been completed. Hunters were charged by officers and police. In 2007, the NMRWB, when we reached the communities, we know what they value with respect to the Polar Bear. Knowledge was passed on from generation to generation. There are two systems of knowledge. We have management practices. We try not to hunt in June, July and August. There are islands where we hunt for food and other wildlife. If there will be decisions, there is data that goes into computers. The three communities in question, they try to follow. Not only polar bears; caribou are declining and waterfowl. Inukjuak has good hunters.

- Nunavik RNUK: We have established practices, even if they are not written. They will be written down. Once we get everything documented we should be set. We do tell our harvesters not to harvest cubs/females with cub, or bears in the den.

- In this discussion, SHB, JB, Sanikiluaq plus Cree nation. Scientists and Biologists have knowledge, and they provided us with data dated by 4 years. Inuit provide information that is up to date. We need to do something to resolve this issue.

- Cree representative: Not sure which way to go. Science provides numbers from 4 years ago, we are presenting real-time TK. We want up-to-date information. We do not have a limit, but would like a proper system. Question to Sanikiluaq PB population in the past years. Do you believe it fluctuates from year to year?

    - Nunavut Inuit Response: from 2011 the population estimate went down, but after a 2:1 implementation and in last two years we have seen that the population has increased.

- Cree representative: Are the bears healthy and do they produce multiple cubs?

    - Nunavik Inuit representative: Polar bears sometimes have 2 or 3 cubs now. The polar bears are healthy and abundant.

    - Nunavut Inuit representative: yes, lots of polar bears. They are abundant.

- Nunavik Inuit representative: Inukjuak hunters don't have funds to do monitoring. The survey and research that were done and models, we discuss this every day. Polar bear is not our main diet, but we want to hunt as a source of revenue. We did not have rules imposed on us, and the only rule we had was to get ear tags. The international community was concerned when we took 72 bears. We had to agree to kill fewer bears, and there was no compensation for the bears that we could no longer kill. We had to agree to the survey results. We need to work together to have a clear estimate. I do not agree with using the models. We need to work together. I guess the next survey will be in sept 2021. We should continue to harvest as we are and wait for new data. But we need a common management plan in the Hudson Bay zone.

- Nunavut Inuit representative: polar bear numbers are increasing.

- Nunavik Inuit representative (Inukjuak): regarding surveys/research/models we don't understand or agree. In 2011, we harvested 72 for commercial purposes. There were a lot in our area and there were no rules or regulations at that time. The only rule was not to deplete the tags. So we started agreeing with the numbers but we had to take away from the harvesters/rights without being offered compensation. We do not agree with the old outdated survey results. We want to work together to get a concrete estimate and plan from there. I agree to working together but not with using those models as a foundation. We need new data to work with. And before we reach that stage we practice with what we know. If the numbers are declining then we can assess. But all TK suggests numbers are increasing. Science says no. We need a management tool that will work with all involved. We have to have a common management plan for the SH bay.

- Nunavik Inuit representative (Inukjuak): I haven't seen anything yet that works well for me. We are speaking for our Nunavik hunters. Sanikiluaq hunters always have 25 while we get less every year. They want additional catch to increase their number. We want the same allowable catch as Sanikiluaq. If our total is reduced, Sanikiluaq's should be also. The combined population of our 3 communities is greater than that of Sanikiluaq. Greater community population with less TAT

- Nunavik Inuit representative (Inukjuak): when we hunted 72 bears, Sanikiluaq was worried about the impact of the reaction of the International community and on their sale of polar bear skins. A number of young boys got their first catch. Sanikiluaq is becoming greedy. It is not thinking about any other communities. How can we better manage our polar bear harvest with our Indigenous knowledge? We had a meeting in our community and we did not agree to be trampled down, and we want instead to use our traditional knowledge.

- Nunavik Inuit representative (Inukjuak): Our community was a big focus, people came to our community because they said we were contributing to a decline. Sanikiluaq is now requesting an increase to their quota, with no thought for other communities. We are concerned about smaller surrounding communities because they are our family. There was no knowledge of zone etc. in 2011.

- Nunavik RNUK representative: The studies from 2011 and 2016 are way past and no longer count. If the next study is coming in the next two years, it would be good to have a workshop in the winter of 2022. We want to work with the most up-to-date information. In Nunavik, we had no quota as in Sanikiluaq. The community reps have an expectation to go home with good numbers for their communities. What will be the outcome of this meeting? We were told this morning that we aren't to talk about numbers, the co-management is up in the air, so what are we doing here? Next time we do a conference like this, I would like to have the most up-to-date figures.

- Nunavik Inuit representative: Government has not kept the agreements. We focus on TK and will not change.

- QWB representative: There seems to be a big difference between science and ITK. As a biologist, this concerns me, we are all studying the same thing. Maybe the pictures are not as different as we think. The scientists are not saying that the populations are declining. The two numbers are not statistically different. Looks like the population might be stable. Inuit mention safety. This needs to be addressed head on. Science has not put Indigenous knowledge into the modeling. Projections over 30 years is too long, 10 years might be more concrete. Maybe the Inuit and Cree should work together and make their predictions. There should be a shift in how the science and Indigenous knowledge work together.

- Cree representative: when there is new data it would be good to have a workshop with up to date information. We are not the same as Sanikiluaq. We need to discuss co-management for the whole area. What is the end result of this meeting? Co-management question is up in the air. No quota talks?

- Nunavik Inuit representative: concerned there is big difference between TK and science. But the difference isn't what we think. We are all talking about the same thing. RE: human conflict, then users are the ones who know. Science looking 30 years ahead…wow that's what an elder can do…perhaps look at 10 years and communities may listen.

- Perhaps Inuit and Cee should get together to make their own independent predictions about the future and come together with ideas on TAT. Shift in how Inuit and Cree work together.

- Cree representative: Started seeing polar bears ten years ago now see them annually. We hear that everyone says there are too many polar bears now we want to start our harvest but the Government distributes tags and we want our share. In 2021 there will be another study and we are anxious to hear what TAT we can have for our community.

- Nunavik Inuit representative (Umiujaq): Disagree with the allocation to Sanikiluaq, Umiujaq wants to have more bears. They expect that after the 2021 survey, more bears will be allocated to Umiujaq.

- Nunavik Inuit representative (Kuujjuarapik): Disagree with the 2016 survey. They see more bears in Kuujjuarapik than ever. We are not interested in using those numbers. We see Polar Bear all the time now. Numbers are already outdated.

- Nunavik Inuit representative: The management authorities should meet first to discuss how they will distribute the tags. Government just purposely fragments all the Inuit so there will never be a resolution. Government has no respect. We need to re-identify zones. The way the zones are marked it is almost impossible without a great amount of arguments about TAT and zones. It would be easier for Nunavik to be split in two regions to benefit the agreements.

- Nunavik Inuit representative: We have no choice but to use these stupid zones (referring to the map of the SHB sub population boundaries). The government did this. It doesn't satisfy the Inuit people. Would like to see zones change for the Inuit, for their self-respect and dignity. My father didn't care about borders and would hide from wildlife officers in the NWT. Polar bears aren't friendly like people down here think. We worry men will be attacked when they go on the land. Bears camouflage themselves by covering themselves with mud. A woman from George River was nearly killed by a camouflaged bear. Change the zones (the management units) to respect the limits of the agreement. Then hunters would manage their territory as caretakers. Not all hunters want pelts. The map (management units) should be something the Inuit of Canada are comfortable with.

3.2.5 Eeyou Istchee Cree Perspectives

Comments were delivered by Fred Tomatuk (CTA), Alan Penn (advisor to CNG), and Bert Moar (CTA)

Fred Tomatuk stated that the Cree of Eeyou Istchee feel: the number of encounters with polar bear has been increasing, especially in the south (Waskaganish). The bears that Cree encounter appear to be healthy. Workshops are being held to discuss and address defense of hunters, including new techniques for scaring off bears with blanks, etc. Encounters with polar bears are reported and forwarded to the Quebec Government. The Cree of the Eeyou Marin Region would like to have a quota allocated to them to take into account defense kills. Finally, the Cree Trappers Association could be a decision making body and participate in proceedings to see that Cree get a fair and equal chance to participate, understanding that the animal is culturally very important to the Inuit.

Alan Penn stated that the CNG is a signatory to EMRLCA, including the overlap area. There is a strong collaborative relationship with Makivik. The relationship with the Cree of the west coast of James Bay (Ontario) also should be considered. In terms of its role in the co-management process, CNG is similar to Makivik and CNG has an interest in ensuring collaborative management.

Bert Moar stated that the economics of trapping are difficult now. Reasons include forestry, moose hunting outfitters, anti-trapping activists, and pollution of rivers and lakes. The sale of fur doesn't pay. One lynx pelt was once worth $1000, now only $50. Now some don't sell the fur, they just trap for the meat. Younger people don't respect the animals, don't listen to elders. Charlton Island – about 10 families camp there. A polar bear once knocked a cabin door down, an old man shot his shot gun into the ceiling to scare the bear off. People are concerned and are now not visiting certain areas. Moose are now moving north so things are changing.

Discussion

- Nunavik Inuit representative: responding to the issue of human safety and the use of deterrents - don't use anything noisy. The polar bear can go deaf and it needs its hearing for hunting seal. Better deterrents available: such as bear guards.

- Nunavut Inuit representative: Do you see more bears than before?

  - Response from Cree Trappers Association: yes. The waters around Charlton Island and Cape Hope aren't freezing anymore. There is a lot more water in winter months than there was before. Presence is increasing. More sightings and encounters. Some Polar Bear are not migrating. Also noted that just because there are more tracks doesn't mean more bears. So caution to use that as an indication for TAT ideas. We are having a lot more open water than in years before.

- Nunavut Inuit representative: How many bears have you killed since 2011? You want to have a higher number in the future, so how many have you killed for survival?

  - Cree Trappers Association: About five bears in the last ten years. The last excursion to get a polar bear was 10 years ago, only one taken, got $350. Now, it's worth half of that. We want enough tags to be able to take one or two bears every year. But I am flexible. When we have a management plan we can all live with, what is important to me is that we have a small sentence at the bottom saying that the Cree have Defense of Life and Property kills.

- Question: do you have to kill for safety and how many since 2011?

  - Cree Trappers Association: yes a few times. Five kills in the last ten years. We are not going to kill for compensation because money is not there. More sightings, so we want the management plan to have a small sentence that Cree have opportunity to defend themselves.

  - EMRWB: we have summarized these data. 14 bears have been killed by the Quebec Cree since 1996. The last one was on Charlton Island in 2017.

3.2.6 Review of Day 1; Presentation of Day 2 Agenda

Summary of Key Points from Day 1

- Meeting Purpose

  - Government representatives and Inuit/Cree knowledge holders are here to share information. The objective of this exchange is so that users can make well-informed recommendations to the Wildlife Management Boards about the level of harvest or other non-quota limitations moving forward.

- Government representatives are not here to impose a quota or decide the number of tags that will be issued for each community. They are sharing information collected over the last few decades using a scientific approach. In the same way, Inuit and Cree are sharing the information gathered in their own way with other communities, jurisdictions and researchers.

- Scientific Observations

  - The 2016 aerial survey estimate replaces the 2011/2012 estimate as the best available estimate of subpopulation size. It is lower, however the error estimates are overlapping.

  - Other signs such as lower litter size, a low proportion of yearlings, declining body condition and declining survival, are concerns that coincide with environmental change.

- Indigenous Knowledge

  - Inuit and Cree communities have been experiencing a higher level of human – polar bear interactions. Human safety concerns and impacts of polar bears on other wildlife (seals, eider ducks) are severe.

  - The increase in polar bear encounters could be a result of a higher abundance of bears, changing distribution of bears, or changing behaviour by bears (such as spending more time on land and closer to settlements). It could be a combination of all three.

- Management Considerations

  - Polar bear harvest is culturally important to Inuit

  - Communities must determine what level of risk they are willing to take regarding both:

    1. The increased potential for human - polar bear conflicts that might result from maintaining a large subpopulation to maximize harvest opportunity in the long-term

    2. The impact of a higher level of harvest that could become detrimental to the survival of the subpopulation

  - Everyone has the right to defend themselves

  - Harvest should be shared equitably

  - Traditional methods of wildlife stewardship are of great importance to Nunavik Inuit and feel it should be part of management

- Improvements should be made in including users in the planning, conducting, and analysis of survey results.

The planned agenda for day two was then presented, focusing on the following three issues and questions:

- Discussion of user recommended management objectives
- Discussion of non-quota limitations
- Discussion on allocation of harvest among user groups
- Determine where there is consensus among users and where there are differences of opinion
- Describe the next steps

…………………………………………………………………………………..<End of day 1>

3.2.7 Management Objectives Discussion

Facilitator began the session by presenting the management options that were examined in the harvest risk analysis and asking for rights holder views about what the management objective should be for the subpopulation.

Discussion

- Makivik co-chair: we are all equal and all have the same goals so we should have equal collaboration in the processes. Our hunters are out there every day observing and collecting TK and so we want up-to-date data.
- Nunavik Inuit representative: do Nunavik and Nunavut want to work together and have a co-management plan? To discuss harvest limits would be detrimental if we do not have an agreement about working together. Is everyone on board to have these discussions (i.e. the one's put forward by the moderator?)
- Cree Trappers Association representative: we are here to support the process. We don't speak on behalf of the Cree of the west side of the bay. CTA and CNG will make a statement, we will support the process as long as we have protection, we won't insist on an increase of harvest.
- QWB representative: In the process in the past, the TAT was not imposed, but left to jurisdictions to manage their own way. But there is confusion because we were told at the beginning of the meeting that we were not here to discuss TAT.
- NWMB asked to provide clarity about the decision process.

- NWMB: we are here as observers. We are here to make decisions for Nunavut only. We need to collaborate with other jurisdictions. We do not have a direct role in the development of a management plan.

- Nunavik Inuit representative: Nunavut representatives have already made statements about the number of bears they want in a quota. But we are here because other communities share this population. The only way is to work together. Because Nunavut has an agreement, they can't just say, "Let's do what our agreement says". They have to be willing to work together on this. Where do we begin? Once we're done, we each will go back to our respective Boards.

- Nunavik Inuit representative: we are missing things. There is inequality. We haven't heard what the take will be, so it's hard to discuss.

- Nunavik Inuit representative: what we are doing here is not from us. We are here because of the government. We have never had a quota. This is all new. The Minister makes a decision and we are now in the picture. Jurisdictional complexities that make us clash. If the provinces and territories cannot come together and work with one another then how can we come to a resolution? We all have to come together. We have instructions and expectations from the government. The JBNQA did not talk about quotas. There is a guaranteed harvest level. There are more polar bears than ever before. It has become a dangerous situation for us. It shows that Quebec and Ontario do not work together. We need to be open-minded and to resolve the problems, because the agreements have so much over-lap. There are a lot of issues with jurisdictional complexities which make us clash because we are protective of our territories. Our safety is a big concern, we need to tackle our public hearings so we can move forward.

*At this point the Inuit representatives determined it would be most useful to discuss things in a closed session for the Inuit and Cree organizations only (no government or Board members) so there is no reporting for those discussions.

3.2.8 Non-quota Limitations Discussion

Facilitator opened the session by noting existing non-quota limitations, such as sex-selective harvest of male polar bears and asked for rights holder views.

Discussion

- Nunavik Inuit representative: In relation to sex-selective harvest, disagreement with applying a 2:1 ratio. This is not Inuit Knowledge.

- Nunavik Inuit representative: harvesting more males than females is okay, but we do not agree to mandated 2:1.

- NTI representative: when Nunavut changed its system to allow harvest of females at up to a 1:1 sex ratio, it doesn't mean that if you harvest one female for every male, it is just an option. It was also noted that some of our hunters want to hunt the biggest bear they can for a hide to make more money, but Inuit have raised concern that hunting large males has an impact on the population. We have seen issues with male-biased harvesting in other species.

- NTI co-chair: the federal government has no enforceable regulations to restrict polar bear hunting. Nunavik has no government regulations. This is problematic.

- Nunavut Inuit representative: under the 2:1 sex ratio limitation, when the TAH is 25, it 17 males and 8 females. If we want to increase to thirty, that would be 10 females and 20 males. Asked, if we adopted a 1:1 ratio or increased harvest, what would be the impact on the international fur trade.

    - Environment and Climate Change Canada: Canada's CITES Scientific Authority reviews the impact of management decisions on the species and make a decision based upon whether the removal is sustainable or not. The ECCC officials here today cannot answer what the outcome of the CITES Scientific Authority review will be.

- Nunavik Inuit representative: there are a lot of younger hunters. It is hard for them to distinguish between male and female bears. Some hunters can determine the sex by the head and the nose. We would need to teach young people how to distinguish sexes.

- A question was asked of the Government of Nunavut, who explained that under the new harvest system that allows up to 1:1 harvesting, there are no penalties for killing more males than females

- Quebec MFFP noted that the harvest in Nunavik has been at approximately a 2:1 ratio over the years naturally, without it being a rule in the TAT.

- Nunavut Inuit representative: males and females prefer different habitats. Some communities may have more access to one sex than another and so will take more bears of that sex. His experience has been that some communities have no problem with hunting at a 2:1 ratio, but others have been forced to stop harvesting in a given year before their TAH is reached to avoid accidentally harvesting a female.

- Following a discussion about taste of big adults compared to females and compared to cubs, the NTI co-chair explained that in Nunavut cubs can only be harvested with special permission. The hides of big males are more valuable for trade and they are being used to make traditional clothing. The price of the hide has declined because of the wildlife activists. In the past, we harvested for money when we saw a polar bear. The population of Inuit is increasing. The children will be harvesters in 15 to 20 years.

- Makivik co-chair: explained there are many cultural practices in Nunavik that ensure harvest sustainability. These include that we don't harvest a female with cubs, we don't harvest bears in dens. When there are multiple cubs, some may be harvested, but it is rare. We know not to hunt females with cubs or in the den. But when there are a few cubs, we know they won't all survive. So in the rare case that we harvest cubs then we take the one that is going to die. By sharing and incorporating our views we will do a lot of good.

- Facilitator asked, what other non-quota limitations do you recommend?

  - Makivik co-chair: some Inuit prefer to hunt animals when the fur is at its prime

  - Another representative noted that some Inuit prefer summer bears because they taste better. We are all different, there are different perspectives in different communities.

  - Nunavik Inuit representative: against polar bears in zoos. In the past, when a mother bear has been harvested biologists would send orphaned cubs to zoos. These become skinny, suffering bears. What is the positon of the legislators on this question? Inuit say that this is not the way to treat animals. What is the law?

    - Environment and Climate Change Canada responded to this question and noted that in order to take a bear out of a province or territory it requires a permit. The draft Quebec-Eeyou Marine Region-Nunavik Marine Region Polar Bear Management Plan makes a very clear statement that this is a practice that is not supported. ECCC will take its policy direction from this plan and will not issue permits for orphaned cubs.

    - Nunavut government indicated their policy is the same.

- Cree Trappers Association representative: are months where you can refrain from hunting polar bears. For example, our hunters refrain from all hunting in July and August, there is only fishing during this time. Is this possible for the Inuit? Is there something like that with polar bear? If so, this should be in the management plan. With an exception for defense killing.

3.2.9 Allocation of Harvest between User Groups Discussion

Facilitator began the session by asking what should the proportional harvest be between the user groups moving forward?

Discussion

- Makivik co-chair: noted that this is a very difficult conversation. There is a context of a court case and appeal about limits imposed on us. We were not going to go into numbers, but we all concur that this will happen down the road once we have a joint meeting. We concur that there are too many bears and that there is a safety issue. Our approach is that we do not fear for these animals, because we do know that reports of skinny bears and poor body condition are misleading and result from the timing of your research (when the females are coming out of the den) and the impact of collars. We are skeptical about your research, because we are hunting healthy animals. We are at an impasse here.

- Facilitator sought input about an earlier remark about harvest allocation needing to be equitable, that one group is not detrimental to another.

    - Makivik co-chair: the fact that are 3 communities in Nunavik and 1 in Nunavut creates tension. It pits communities against each other, like children fighting over a portion of a pie. It is hard for us to establish where to draw the line on what is equitable. The pie has to be shared, but there are no tools to serve. So people serve themselves. No right balance, so it is tough to draw a line about what is equitable.

- Nunavut Wildlife Management Board representative explained the example of the Baffin Bay polar bear Joint Commission between Canada and Greenland. In that case there was agreement on what the harvest should be and how it should be shared between Canada and Greenland. Agreement was possible because there was support from Hunters and Trappers Organizations.

- Eeyou Cree representative: I spoke this morning of producing a skeleton of a polar bear management plan. We are going to have to deal with numbers eventually. I think we need to talk about numbers. The earlier we flag the numbers the better we can plan. For the sake of discussion we should have numbers and get on with a management plan.

- Nunavik Inuit representative: hunters must be well-informed. Allocation must be discussed to allow communities a chance to contribute. We have to discuss what we want to harvest. I think that numbers should be discussed. The representatives speak on behalf of the hunters. The discussion can be postponed, but we need to start sooner than later.

- Makivik co-chair: our wildlife management boards go through their decision process, but the decision is changed by government. Government always uses science, it doesn't take into account Indigenous Knowledge. We need to combine the two. If we must talk about numbers, so be it.

- Makivik co-chair: we always try to fit into a scientific approach but never get what we want. At the end of the day, it is left up to the Minister. Work with us and you will have the most up to date facts. We all want the best for our people.

- Nunavut Inuit representative: we submitted our proposal yesterday. We do not want a reduction in harvest.

- Nunavik Inuit representative: according to the last research results, 49 bears were taken. But we feel we need to raise the number of bears. We don't like it when we all agree and the government changes the decision later. Government authorities make the decision for us. The research data we have is so old, we are making uninformed decisions.

- Nunavik Inuit representative: our people are expecting decisions on TAT and we need decisions to be made in this room. What information are we to take back home? Because we don't want to argue amongst each other and have a negative meeting. It would be ideal to talk about our own perspective. Sanikiluaq has its 25 TAT established by the NMWB. There is no TAT in force on the mainland. What should our coastal area TAT be? We have caught 6 polar bear inland, will they be included in the counts? We need to decide what the take is, depending on the population. Whatever it is, it should be split equally. The population is increasing. If we were to follow the first scenario, the bears should be distributed according to the population. Ontario and Quebec can harvest any time and for defense. In 2021 there will be another count. We put up with a lot of things as Inuit people. Nunavut has said they don't want to change the number. If we don't make a decision, someone will make it for us.

- Nunavik Inuit representative: our people are expecting a TAT. Practice is not going to change until there is a decision. It would be nice to talk about our own perspective instead of what had been forced upon us. Government is trying to hide things in their writing. All harvest should be equal and our harvest levels should increase. Distributed according to the population. Anytime defense kills. If we cannot come to a decision then someone else will make a decision for us.

- Nunavik Inuit representative (Inukjuak): if we get a lower number, we will be unhappy, because Kuujjuarapik and Umiujaq need to be considered too. For the communities to split the catch evenly, it would be insufficient. What is the real purpose of Sanikiluaq not wanting to change that number?

- Nunavut Inuit representative: we mentioned earlier the number of 25. It is the number harvested according our management plan for over 40 years. The hunt starts in March, goes to June 30. The 25 bears can be harvested in a few weeks. Because of the dangerous encounters and the concern for eider ducks, we wanted to keep this number. We discussed this at a recent meeting.

- Makivik co-chair: do we believe the proposition that there is concern for the bear population? Do we all agree with the recent proposal that was given to us? If the population was to decline substantially, will the 25 have to change? We are talking about numbers we do not need to worry about the population as it is stable. If there was a concern and the population decline then quota will have to change. But if it is stable then we should come up with a higher number. We have had good hunting practices; we have been doing a good job for the past 40 years. They say we have a good management plan. If we don't agree there is a decline in bears, there should be no quotas.

- Nunavik Inuit representative: I don't know where the numbers come from. We have had good sustainable harvest this whole time.

- Makivik co-chair: we need to establish what we agree on. In essence bears are increasing if we do not see a cause for concern then we do not see a need for quota.

- Nunavik Inuit representative: I don't agree with the survey, a plan should be based more on traditional knowledge. We will avoid hunting mothers with cubs that won't survive if the mother is harvested. We need to continue Inuit hunting practices. We want what the Cree Trappers Association representative suggests: a nice and established management plan. If we don't need meat, we will not kill it. I think we have good practices. The non-beneficiaries should know that we have been looking after our own wildlife for a long time.

- Nunavik Inuit representative: we are in the same situation as with the beluga. If we can come up with a number as a starting point of the TAT. In this meeting, we will not discuss the numbers. But the recent surveys in the past, aerial surveys are a problem. The population of Inukjuak is higher than that of Umiujaq and Kuujjuarapik. They can establish a number as a starting point.

- Nunavik Inuit representative: our population is increasing. There are definitions in the land claims agreement about conservation. We are using different government terms. When you take that terminology and use it, should we adopt someone else's decision? Even if it's going to create conflict? The terminology that comes from a different language is used to establish our plan. Our parents have told us that the Inuit have to bring their own terminology, because we have our knowledge.

- Nunavut Inuit representative: we have understood that we can try the regulations from the government. If there are changes to be made, we can adjust them accordingly. We've been using quotas for the past 40 years.

- Facilitator asks for final thought on if there is a number that you want to recommend

- Makivik co-chair: No limit. We don't see a need for a number, given that there is no conservation concern.

3.2.10 Presentation of Recommendations of the User-to-User Group Participants

The facilitator used a large flip chart to write down the main conclusions of the discussion

<u>Key outcomes</u>

- Agreement to work together

- Suggestion of joint board/council hearings

- Essential to work within land claim agreements

- Joint board decisions to work together, not just on overlapping issues, but on shared resource

Management objective

- Considering that:
  - Polar bear health is better than presented (by scientists)
  - There are lots of concerns about safety of people with current abundance of bears
  - There is a need to ensure that all Indigenous knowledge is included (Inuit, Cree)
- Users identified two new management objectives:
  1. increasing the harvest level
  2. increasing indigenous participation in management of polar bears

During this discussion, users also stated that:

- They had concerns that collaring is negatively impacting health of polar bears (especially female)
- Research practices are interrupting mother bears and this should be discontinued

Sex-selective harvest and other non-quota limitation considerations and concerns

- Sex-selective harvest targeting males at a 2:1 ratio is not based on IK; negative experience seen when this has been done in other species
- Concerns were expressed as of the potential impacts that ending the male-biased harvest could have on trade.
- Training for younger hunters is important- as identifying sex requires experience
- There should be allowance to harvest more males than females, but it should not fixed at a 2:1 ratio
- Always targeting the largest males is a concern
- Cubs are rarely hunted, in Nunavut it requires a permit and is for special occasions
- Polar bear harvesting is not just for trade

- Prefer to hunt when the animals are in their prime; in summer the taste is the best, but for fur hunting in the summer is not good.

- Do not support polar bears in zoos

Proportional allocation of harvest

- The allocation of harvest should be discussed down the road with a joint hearing

- Allocation should be fair and equitable

- It should be considered that there are 3 communities in Nunavik vs 1 community in Nunavut

- The fact that Inuit (human) population is increasing should be taken into consideration

Incorporate cultural knowledge and tradition

- Work with Inuit knowledge for accurate data analysis - current scientific data is outdated

- Agreement's need to be discussed earlier than later

- There is a need for more involvement with Inuit when determining TAH rather than only basing the decision on abundance numbers given by scientists.

Next Steps

The meeting concluded with a summary of next steps in the process to re-assess TAH / TAT levels and commitment by all too continuing dialog to ensure collaborative information gathering, exchange, and decision-making. Next steps include:

- Completion of a Consultation Report summarizing the information shared and feedback received at the user-to-user meeting, as well as community engagement meetings.

- A submission by the Governments of Nunavut, Quebec, and Canada to the NWMB, NMRWB, EMRWB, and HFTCC formally requesting that the Boards/HFTCC assess existing harvest limits in consideration of the information included in the Subpopulation Status Report, Harvest Risk Analysis Report, and Consultation Report.

- Board/HFTCC determination if TAT/TAHs will be re-assessed and the format they will use to coordinate their efforts.

APPENDIX A. USER-TO-USER MEETING INVITATION

From: Ladanowski, Caroline (EC)

Sent: February 12, 2020 8:24 AM

To: qwbac@niws.ca; kpitsiulak@niws.ca; sani@baffinhto.ca; sani@baffinhto.ca; secretary@rnuk.ca; president@rnuk.ca; juupiow@hotmail.com; jqumaluk@hotmail.com; salamiva@gmail.com; john.lameboy@ctaoffice.ca; nlouttit@ctaoffice.ca; jeetoolook@tunngavik.com; pirngaut@tunngavik.com; vpdewr@makivik.org; ggilbert@makivik.org; apenn@cngov.ca; fred.tomatuk@ctaoffice.ca; allanhouse@ctaoffice.ca; danielle.st-pierre@mffp.gouv.qc.ca; DGissing@gov.nu.ca; Kirsten.Corrigal@ontario.ca; Jakearok@nwmb.com; DNdeloh@nwmb.com; mbasterfield@nmrwb.ca; jean-pierre.savard@videotron.ca; acoxon@eeyoumarineregion.ca; phale@eeyoumarineregion.ca; gdcaron@eeyoumarineregion.ca; m.smart@cccpp-hftcc.com; Ladanowski, Caroline (EC)
Cc: dlee@tunngavik.com; marie-claude.richer@mffp.gouv.qc.ca; Guillaume.szor@mffp.gouv.qc.ca; csmith@gov.nu.ca; Iverson, Samuel (EC); Mdyck1 @gov.nu.ca; Joseph.Northrup@ontario.ca; Eric V Regehr (eregehr@uw.edu); moconnor@makivik.org

Subject: Invitation to a User-to-User Meeting to Determine Recommended Polar Bear Management Objectives and Harvest Needs in the Southern Hudson Bay Management Unit on February 25-26, 2020 at the Courtyard Marriot-Downtown in Montreal, QC

Attachments: SH_Letter_of_Invitation_February_12_2020.pdf;
1a_SH StatusReport_Summary_EN.pdf;
1b_SH_StatusReport_Summary_FR.pdf;
1c_SH_StatusReport_Summary_Inuktitut_Nunvavut.pdf;
1d_SH_StatusReport_Summary_Inuktitut_Nunavik.pdf;
2_SH_StatusReport_full_EN.pdf;
3a_SH HarvestAnalysis_Summary_EN.pdf;
3b_SH_HarvestAnalysis_Summary_FR.pdf;
3c_SH_HarvestAnalysis_Summary_Inuktitut_Nunavut.pdf;
3d_SH_HarvestAnalysis_Summary_Inuktitut_Nunavik.pdf;
4_SH_HarvestAnalysis_full_EN.pdf

Dear Southern Hudson Bay Polar Bear Subpopulation Harvester Representatives and Management Authorities:

I am writing to extend an invitation to your organization to participate in a meeting concerning polar bear harvest in the Southern Hudson Bay (SH) management unit. A copy of the letter is attached for your records. The meeting will take place in **Montreal, QC at the Courtyard Marriot-Downtown on February 25-26, 2020**.

Purpose of the meeting:

(1) For Indigenous rights holder representatives to meet with management authorities and receive up-to-date scientific and Indigenous Knowledge information from recently completed studies.

(2) For Indigenous representatives to share their views about the status and management of SH polar bear, including views relating to management objectives, non-quota limitations, harvest needs, and how harvest quotas are shared among Indigenous user groups (i.e., harvest allocation).

(3) To make consensus recommendations pertaining to management objectives, harvest needs, and harvest allocation, which will be included in a report forwarded to the relevant wildlife management boards / advisory council with authority under existing land claims agreements to establish or recommend new Total Allowable Harvest (TAH) / Total Allowable Take (TAT) limits and Non-Quota Limitations (NQL).

Organizations involved

Management authority for the SH subpopulation is a shared responsibility of federal, provincial and territorial governments (Canada, Nunavut, Québec, Ontario), as well as wildlife management boards and an advisory council (Nunavut Wildlife Management Board, Nunavik Marine Region Wildlife Management Board, Eeyou Marine Region Wildlife Management Board, Hunting, Fishing and Trapping Coordinating Committee) and Indigenous organizations (Nunavut Tunngavik Inc., Makivik Corp., Grand Council of the Cree (Eeyou Istchee)/Cree Nation Government, and the Cree Trappers Association) that derive their respective mandates from land claims agreements.

Regional and local Indigenous organizations and associations also maintain important roles in the management and allocation of harvest limits. These groups include:

- Nunavut Inuit - Qikiqtaaluk Wildlife Board (QWB) and Sanikiluaq Hunters and Trappers Organization (HTO);
- Nunavik Inuit - Regional Nunavimmi Uumajulirijiit Katutjiqatigiinninga (RNUK) and Inukjuak, Umiujaq, and Kujjuaraapik Local Nunavimmi Uumajulirijiit Katutjiqatigiinningiit (LNUKs);
- Eeyou Istchee Cree - Cree Trappers Association (CTA) local chapters: Whapmagoostui, Chisasibi, Wemindjii, Eastmain, and Waskaganish;
- Ontario First Nation - Fort Severn, Peawanuck, Attawapiskat, Kashechewan, Fort Albany, and Moosonee.

Rationale and process for reassessing harvest limits

The reason for holding February's meeting is because management authorities have accepted a new estimate of subpopulation abundance based upon an aerial survey conducted in 2016. The current TAT/TAH limits in Nunavut and the Nunavik Marine Region (including the Inuit-Cree overlap area that is also included within the

Eeyou Marine Region) are based on a subpopulation abundance estimate derived from an aerial survey conducted in 2011 (now out-of-date). Moreover, new scientific information and Indigenous Knowledge information have recently been collected.

There is a need to assess harvest levels in consideration of the new abundance estimate, recently completed studies, and management objectives. Documents summarizing the status of the SH subpopulation and a harvest risk analysis are attached for your information. This information will be presented and discussed at February's meeting.

It is important for participants to be aware that **harvest limits will not be determined at this meeting**. Information and recommendations resulting from the meeting will feed into wildlife management board / advisory council decision/recommendation processes as specified by the relevant land claims agreements.

Formal TAT/TAH limits are not currently in effect in Ontario or Québec, nor in the Eeyou Marine Region south of the Inuit-Cree overlap area. However, Indigenous rights holders are responsible for the sustainable use of resources under treaties within these locations. Information regarding management objectives, along with the frequency of defense of life and property kills and/or harvest in Ontario, Québec, and the Eeyou Marine Region, will also be considered by the aforementioned wildlife management boards / advisory councils when assessing TAT/TAHs in Nunavut and the Nunavik Marine Region.

Meeting logistics and funding for travel associated expenses

Date/time: February 25-26, 2020; 8:30 am to 5:00 pm each day.

Location: Courtyard Marriott Downtown; 380 Rene-Levesque Boulevard West, Montreal, QC H2Z 0A6; (514) 398-9999, Toll free reservation center: (855) 398-9998.
Participants are responsible for booking their own rooms and need not stay at the meeting venue.

Travel cost: there are no fees for the meeting. Refreshments and snacks will be provided during morning and afternoon breaks. It is expected that government, wildlife management boards / advisory council, Land Claims Organizations, CTA executive, and regional wildlife organizations (QWB, RNUK) fund their own travel.
Funding for transportation, hotel, and meal costs will be provided for community-level representatives (i.e., HTO, LNUK, community CTA).

While strong participation by all groups is encouraged, meeting space is limited. Therefore, we request that each organization identify the individual(s) best positioned to represent their organization and determine who among those individuals requires financial support.

Confirmation of participation

Confirmation of the number of people from your organization that will attend must be received before February 14th, 2020.

To confirm your attendance (or that of someone else from your organization) or to raise any other questions, please contact Sam Iverson (EM: samuel.iverson@canada.ca; PH 819-938-5467).

I hope that your organization will be able to participate and look forward to continued collaboration on polar bear management.

Sincerely,

Caroline Ladanowski (Environment and Climate Change Canada) on behalf of the Southern Hudson Bay Polar Bear Advisory Committee

APPENDIX B: USER-TO-USER MEETING PARTICIPANTS

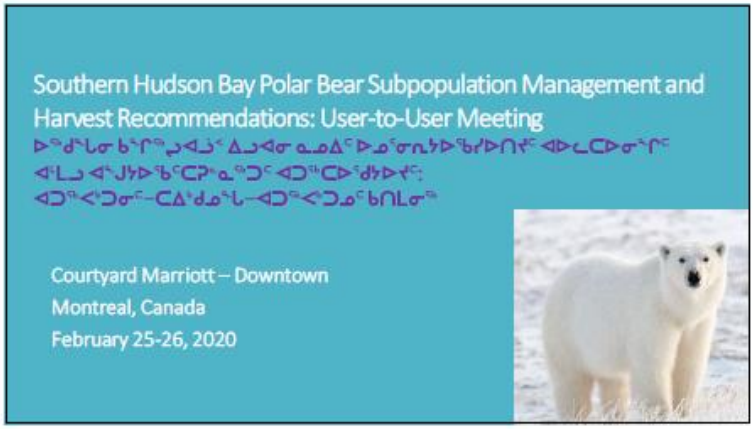
The Southern Hudson Bay Polar Bear Subpopulation Management and Harvest Recommendations: User-To-User Meeting; Courtyard Marriott – Downtown, Montreal, Canada, February 25-26, 2020.

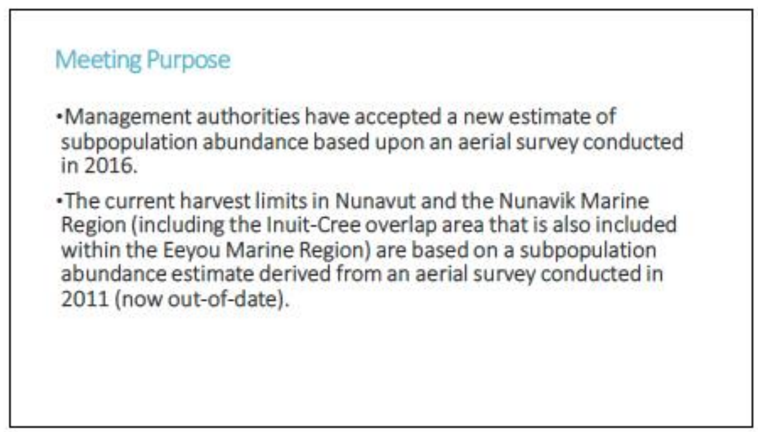
Organization	Person	Title
Qikiqtaaluk Wildlife Board	James Qilliq	QWB Chairman
Qikiqtaaluk Wildlife Board	Michael Ferguson	Senior Wildlife Advisor
Sanikiluaq HTO	Eli Kavik	HTO Chairman
Sanikiluaq HTO	Lucassie Arragutainaq	HTO Manager
Sanikiluaq HTO	Charlie Takatak	
Sanikiluaq HTO	Puasi Ippak	
RNUK	Jimmy Johanes	RNUK Secretary
RNUK	Johnny Arnaituk Jr.	RNUK Vice-president
RNUK	Putulik Papigatuk	RNUK Treasurer
Inukjuak LNUK	Lasayusi Tukai	LNUK Vice-President
LNUK Inukjuak	Simeonie Ohaituk	LNUK member
LNUK Inukjuak	Billy Palliser	LNUK advisor
LNUK Inukjuak	Jobie Epoo	LNUK advisor
Umiujaq LNUK	Lucassie Cookie	LNUK member
Umiujaq LNUK	Johnny Kasudluak	LNUK Member
Kuujjuarapik LNUK	Willie Novalinga	LNUK Member
Kuujjuarapik LNUK	Jimmy Paul Angutiguluk	LNUK President
Cree Trappers Association - Cree communities	John Lameboy	CTA – EMR Local Officer
Cree Trappers Association - Cree communities	Natasha Louttit	CTA-EMR Wildlife Liaison Officer
Nunavut Tunngavik Incorporated	James Eetoolook	Vice President
Nunavut Tunngavik Incorporated	Paul Irngaut	Director of Wildlife
Nunavut Tunngavik Incorporated	David Lee	Wildlife Biologist
Makivik Corp	Adamie Delisle Alaku	Vice President
Makivik Corp	Gregor Gilbert	Director Department of Environment, Wildlife & Research
Makivik Corp	Mark O'Connor	Assistant Director, DEWR

Makivik Corp	Barrie Ford	Resource Management Coordinator
Cree Nation Government	Alan Penn	Science Advisor
Cree Nation Government	Cameron McLean	Coordinator
Cree Nation Government / HFTCC	Nadia Saganash	Wildlife Management Administrator
Cree Nation Government	Tania Couture	Biologist
Cree Trappers Association (executive)	Fred Tomatuk	President
Cree Trappers Association (executive)	Bert Moar	Executive Committee
Cree Trappers Association (executive)	Allan House	CTA Executive Director
Canadian Wildlife Service	Caroline Ladanowski	Director, Wildlife Management and Regulatory Affairs
Canadian Wildlife Service	Sam Iverson	Head, Polar Bear Management Unit
Canadian Wildlife Service	Michael Anissimoff	Biologist, Polar Bear Management Unit
Canadian Wildlife Service	Mark Mills	Indigenous Liaison Officer
QC MFFP	Danielle St. Pierre	Director, Expertise sur la faune terrestre, l'herpétofaune et l'avifaune
QC MFFP	Marie-Claude Richer	Biologist, polar bear provincial coordinator
QC MFFP	Guillaume Szor	Biologist, polar bear in the northern Québec region
Nunavut DOE	Drikus Gissing	Director of Wildlife
Nunavut DOE	Caryn Smith	Senior Wildlife Advisor
Nunavut DOE	Markus Dyck	Polar Bear Biologist II
Nunavut DOE	Jasmine Ware	
ON MNRF	Joe Northrup	Research Scientist
NWMB	Jason Akearok	Executive Director
NWMB	Denis Ndeloh	Director of Wildlife
NWMB	Daniel Shewchuk	Chairperson
NMRWB	Mark Basterfield	
NMRWB	Jean-Pierre Savard	
EMRWB	Angela Coxon	Director of Wildlife
EMRWB	Peter Hale	
EMRWB	G. Daniel Caron	

HFTCC	Mandy Gull	President
HFTCC	Miles Smart	Executive Secretary
University of Washington	Eric Regehr	Research Scientist
Professional facilitator	Carole Spicer	

APPENDIX C. USER-TO-USER MEETING PRESENTATION





Meeting Purpose

Purpose of the meeting:

1. For Indigenous rights holder representatives to meet with management authorities and receive up-to-date scientific and Indigenous Knowledge information from recently completed studies.
2. For Indigenous representatives to share their views about the status and management of Southern Hudson Bay polar bear, including views relating to management objectives, non-quota limitations, harvest needs, and how harvest quotas are shared among Indigenous user groups (i.e., harvest allocation).
3. To make recommendations about management objectives, harvest needs, and harvest allocation, which will be included in a report forwarded to the relevant wildlife management boards / advisory council with authority under existing land claims agreements to establish or recommend new Total Allowable Harvest (TAH) / Total Allowable Take (TAT) limits and Non-Quota Limitations (NQL).

Organizations involved

Indigenous land claims organizations:

- Nunavut Tunngavik Incorporated
- Makivik Corporation
- Grand Council of the Cree (Eeyou Istchee)/Cree Nation Government and the Cree Trappers Assoc.

Regional and local Indigenous organizations:

- Nunavut Inuit - Qikiqtaaluk Wildlife Board (QWB) and Sanikiluaq Hunters and Trappers Organization (HTO);
- Nunavik Inuit - Regional Nunavimmi Uumajulirijiit Katutjiqatigiinninga (RNUK) and Inukjuak, Umiujaq, and Kuujjuarapik Local Nunavimmi Uumajulirijiit Katutjiqatigiinningiit (LNUKs);
- Eeyou Istchee Cree - Cree Trappers Assoc. (CTA) local chapters: Whapmagoostui, Chisasibi, Wemindji, Eastmain, and Waskaganish;
- Ontario First Nations - Fort Severn, Peawanuck, Attawapiskat, Kashechewan, Fort Albany, and Moosonee

Organizations involved

Government:

- Canada – Environment and Climate Change Canada
- Nunavut – Department of Environment
- Québec - Ministère des Forêts, de la Faune et des Parcs
- Ontario - Ministry of the Environment, Conservation and Parks / Ministry of Natural Resources and Forests

Wildlife management boards and an advisory council (observers)

- Nunavut Wildlife Management Board
- Nunavik Marine Region Wildlife Management Board
- Eeyou Marine Region Wildlife Management Board
- Hunting, Fishing and Trapping Coordinating Committee

Past voluntary agreements and current decision making process

- In 2011 and 2014 voluntary agreements were reached about polar bear harvest in Southern Hudson Bay
- The parties recognized the need to limit harvest levels and for the Wildlife Management Boards to collaborate in their decision-making in the future
- Harvest limits will not be determined at this meeting.
- The goal of this meeting is for harvesters in different areas to make consensus recommendations that are forwarded to the boards / advisory council for use in the board / advisory council decision/advice processes.

Harvest limits

Inukjuak 2011

- The 2011 meeting, which was held in Inukjuak, QC, was called in response to a high removal of polar bears by Inuit hunters during the 2010/2011 hunting season (105 polar bears, including 30 by Nunavut Inuit, 73 by Nunavik Inuit, 1 by Eeyou Istchee Cree), and associated concern raised by domestic and international parties about the sustainability of harvest.
- The Inukjuak meeting resulted in a voluntary agreement that was in place for the 2011/2012 to 2013/2014 hunting seasons.

Ottawa 2014

- The 2014 meeting, which was held in Ottawa, resulted in an updated voluntary agreement that was in place for the 2014/2015 and 2015/2016 hunting seasons.

2016 decision

- Since 2016/2017, harvest limits have been based on the older, out-of-date estimate of 943 polar bears rather than on the current estimate of 780 polar bears. The limits are as follows:
  - Nunavut Settlement Area: 25 (Nunavut Inuit)
  - Nunavik Marine Region: 23 (Nunavik Inuit, with at least one polar tag allocated to the Cree of Eeyou Istchee for harvest within the Inuit-Cree overlap area).

Harvest limits

- At present, there are no take limits in the Eeyou Marine Region south of the Inuit-Cree overlap area, which is also part of the Nunavik Marine Region, or in onshore areas of Québec.
- Under Treaty 9, there is no formal harvest limit for Ontario Cree; however a voluntary limit of 30 bears per year that could be sealed for trade was established in 1976 through an informal agreement between the Ontario government and the coastal Cree First Nation communities.
- Since the listing of polar bear as a Threatened species under the Ontario Endangered Species Act in 2009 the sale of polar bear parts within Ontario has been prohibited. Most polar bear take in Ontario is now defense kills.

Process for coordinated decision making

Agenda Item
3

Subpopulation Status Report
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Southern Hudson Bay Polar Bear Subpopulation Status Report

USER TO USER MEETING

25 FEBRUARY 2020 – MONTRÉAL (QC)

JOE NORTHRUP, BIOLOGIST, GOVERNMENT OF ONTARIO
MARKUS DYCK, POLAR BEAR BIOLOGIST, GOVERNMENT OF NUNAVUT
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MARK BASTERFIELD, NUNAVIK MARINE REGION WILDLIFE BOARD

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Outline

- Subpopulation overview
- Polar Bear Technical Committee Assessment
- Indigenous Knowledge summary
- Scientific Assessment
  - Abundance estimates
  - Reproduction, body condition, survival and movement
  - Ice conditions
- Current and historical harvest

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1. Subpopulation overview

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2. Polar Bear Technical Committee Assessment

- Current estimate (2016):
  780 polar bears (95% CI: 590–1029)
- Replaces previous (2011/2012) estimate:
  943 polar bears (95% CI: 658–1350)
- Harvest levels are currently based upon the 2011/2012 estimate

PBTC assessment type	Definition	Assessment result	Primary rationale
Indigenous Knowledge (IK)	Knowledge generated from the cultural practices, lived experiences and traditions of local and Indigenous peoples	Stable in James Bay; Likely increased in east Hudson Bay	Interviews and consultations with Indigenous people describing changes over time in the number of polar bears observed, polar bear behavior, and other factors
Recent trend	Changes in abundance over the last 15 years according to scientific surveys	Likely declined	Comparison of the most recent estimate of abundance to the previous estimate collected in 2011/2012, as well as information about declines in polar bear body condition and survivorship in association with an increasing ice-free season.

3. Indigenous Knowledge

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- Three sections summarize the available IK

1. Nunavik Marine Region Wildlife Board - 2018 Report
   - Increase in the numbers since the 1970s
   - Wider distribution, including the use of inland areas
   - Polar bear described as very healthy
   - Traditional stewardship practices are sufficient for conservation (hunting only based on need and not wasting any of the animal killed, not hunting polar bears during the summer, and not harvesting cubs or known mothers).
   - https://nmrwb.ca/resources-and-education/

3. Indigenous Knowledge

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2. Nunavut Inuit Qaujimajatuqangit (IQ)
   - Shared at the 2018 NWMB public hearing for the Nunavut Polar Bear Co-Management Plan
   - Emphasized that the polar bear population is increasing in Nunavut, including in the area around Sanikiluaq.
   - Climate change will not cause the disappearance of polar bears. According to IQ, it is normal for the polar bear population to increase and decrease in a cycle.

3. Indigenous Knowledge

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3. Traditional Ecological Knowledge of Polar Bears in the Northern Eeyou Marine Region
   - Study is being finalized.
   - Preliminary results include concerns about an increase in the abundance of polar bears in the Eeyou Marine Region and a growing number of human-polar bear interactions.
   - Climate change, and more specifically changes in sea ice dynamics, mentioned as potential causes for the observed changes.

4. Scientific Assessment

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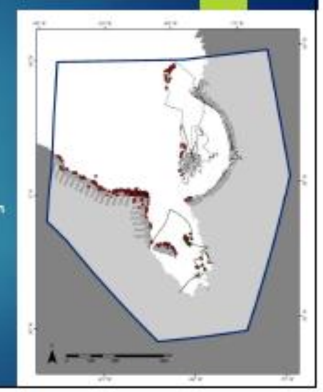
- Three sections summarize the available science

1. Abundance estimates
   - 1984-1986: First formal scientific estimates of abundance and survival (~1,000 bears)
   - Stable population trend suggested from the mid-1980s to 2012
   - 2011/2012 aerial survey: **943 bears** (95% CI: 658–1350);
   - 2016 aerial survey: **780 bears** (95% CI: 590–1029)
   - The difference in estimates suggests that the subpopulation may have declined (but confidence intervals overlap).
   - Decline in body size/condition and numbers in Western Hudson Bay (WH) over same period supports a potential decrease in SH
   - Supplementary aerial survey in 2018 of the coastline also indicated a lower abundance in 2016 and 2018 than in 2011/2012



4. Scientific Assessment

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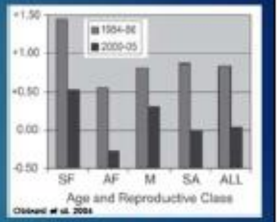
2. Information about reproduction, body condition, survival, and movement

- Reproduction (average litter size) has decreased:
  - 2.0 (1970s)
  - 1.575 (early 2000s)
  - 1.56 (2011/12)
  - 1.46 (2016)
- Fewer yearlings in 2016 than 2011 (down from 12% to 5%)
- Body condition:
  - Data from Ontario (ice-free season) indicated a decline in Body Condition Index from1984-1986 to 2000-2005 to 2007-2009 based upon capture work
  - Data from Nunavut (ice season, harvested bears) indicated no change in Body Condition Scores since 2010. 92.7% of the harvested bears had a BCS of average and better. (But WH showed decline in BCS over same period)



4. Scientific Assessment

22

2. Information about reproduction, body condition, survival, and movement

- Survival: declines for all age and sex classes (overall decrease) from the 1980s through 2000s
- Movement
  - Bears move mainly within subpopulation boundaries
  - Bears move into other subpopulations regularly when on sea ice
  - Preliminary analysis of marked and subsequently harvested bears suggests some movements between SH and WH

4. Scientific Assessment

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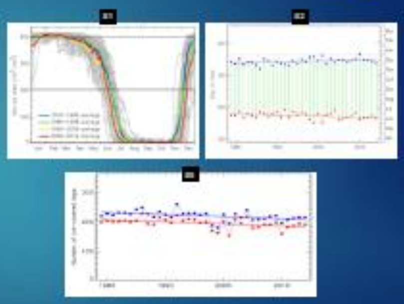
3. Ice conditions

- In Southern Hudson Bay, the ice free period has increased over time; sea ice generally freezes later and begins to melt earlier. Sea ice loss is not the same for all polar bear subpopulations and others have greater sea ice changes than SH.
- Sea ice loss is projected to continue.



5. Current and Historical Harvest

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- Voluntary Agreements from 2011 and 2014
  - Partners recognized the need to limit the level of take and for WMBs to collaborate in their decision-making
  - Included voluntary limits
  - Not all of the coastal Cree communities in Ontario were represented and thus unable to agree to the limits.
- Cree Nation Government
  - The Cree of Eeyou Istchee periodically take bears for defense of life and property.
  - Cree communities on both coasts need to be included in decisions involving the reporting of defense kills, or the introduction of specific measures to reduce defense kill mortality.

5. Current and Historical Harvest

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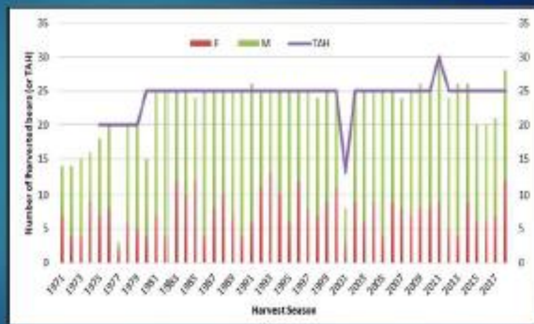
Nunavut

- Sanikiluaq
- Harvest managed under flexible quota system
- ~100% reporting



5. Current and Historical Harvest

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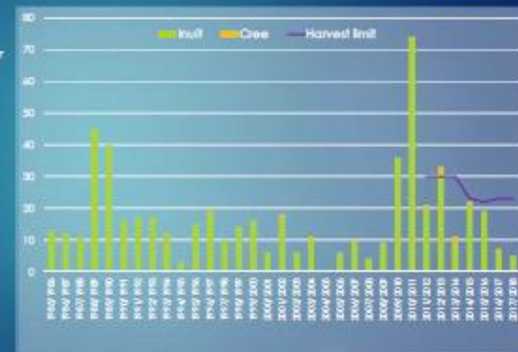
Québec

- No legal requirement under JBNQA to report
- QC MFFP has compiled harvest reports and issued tags since 1985 (provincial regulations, international trade)
- Proportion of the harvest being reported is currently unknown (estimated between 50 to 90%)



5. Current and Historical Harvest

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Ontario

- No formal quota in place
- A voluntary quota of 30 bears was established in 1976 through an informal agreement between the Ontario Government and coastal Cree First Nation communities, whereby a maximum of 30 hides would be sealed in any year.
- In September, 2009, polar bears were listed under Ontario's Endangered Species Act, which prohibits the sale of polar bear parts within Ontario.
- Ontario's reported harvest averaged 4.2 polar bears annually from 1994/1995 to 2016/2017, and 1.8 polar bears annually from 2011/2012 to 2016/2017.
- Currently, Ontario has no formal means of tracking harvest from defense of life and property kills.

5. Current and Historical Harvest

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Total **reported** harvest within SHB compared to voluntary agreements and established TAT/TAH

Hunting season	Nunavut		Québec		Ontario	
	Limit	H	Limit	H	Limit	H
2008/2009	25 (TAH)	26	None	9	None	3
2009/2010	25 (TAH)	25	None	36	None	1
2010/2011	30 (TAH)	30	None	74	None	0
2011/2012	25 (TAH)	25	30 (VA)	22	None	4
2012/2013	25 (TAH)	26	30 (VA)	33	None	2
2013/2014	25 (TAH)	27	30 (VA)	11	None	0
2014/2015	20 (VA)	20	23 (VA)	22	None	1
2015/2016	20 (VA)	20	22 (VA)	19	None	2
2016/2017	25 (TAH)	22	23 (TAT)	7	None	2
2017/2018	25 (TAH)	28	23 (TAT)	5	None	0

5. Current and Historical Harvest

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- Current limits

	Area				
Management consideration	Nunavut Settlement Area	Nunavik Marine Region†	Eeyou Marine Region‡	Québec (onshore region)	Ontario (onshore coastal region)
Hunting season	July 1 – June 30	July 1 – June 30	No restriction	September 1 – May 31	
Who can hunt	Nunavut Inuit with a tag	Nunavik Inuit and Eeyou Istchee Cree (within NMR/EMR overlap area)	Eeyou Istchee Cree	Nunavik Inuit and Cree	Treaty 9 rights holders in coastal communities (Cree)
Harvest limit (2018-2019)	TAT of 25	TAT of 23 (including at least 1 bear for Cree)	No take limits since expiry of voluntary agreement in November 2016	No take limits since expiry of voluntary agreement in November 2016	None
Protection for females and cubs	Yes	Yes	No	Yes	Yes
Protection for bears in dens	Yes	Yes	No	Yes	Yes

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Agenda Item
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Harvest Risk Analysis
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Harvest Risk Analysis

Modelling Approach

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- Based specifically on the biology of Southern Hudson Bay Polar Bears
- Considers population data – abundance, survival and reproductive rates
- Population processes are modelled for females only
- Incorporates potential impacts of changing environment (sea ice decline)

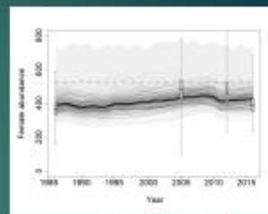

Figure 1. Population reconstruction (for female polar bears in Southern Hudson Bay based on modelling).

Modelling Approach

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- Also considers:
  - Carrying Capacity (K) – Number of polar bears the environment can support.
  - Harvest Strategies – Harvest level and composition (age, sex), timing, and precision of future surveys, management interval.

Future Biological Scenarios

35

- Uncertainty in the current and future status was accounted for by developing three biological scenarios representing a range of conditions, from optimistic to pessimistic, based on the available science and documented Indigenous Knowledge.

Future Biological Scenarios

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SCENARIO	DESCRIPTION
Scenario 1	**Optimistic hypothesis** that the future will be similar to the past 30 years, with only gradual declines in carrying capacity (number of bears SH area can support) proportional to projected declines in the number of ice-covered days per year.
Scenario 2	**Middle-of-the-road hypothesis** that the future will be similar to the past decade, during which there is some evidence of changes in population characteristics (e.g. reproduction, survival, body condition, etc.), and that both carrying capacity and population growth rate *(how fast a population adds individuals)* will decline gradually in the future.
Scenario 3	**Pessimistic** hypothesis that the subpopulation experiences either:
Scenario 3a	A rapid decline in abundance (declining population growth rate) which is directly linked to the declining quality of sea ice (i.e. Polar bears will not be able to maintain growth rates in the current environment with poor ice quality).
Scenario 3b	*A rapid decline because the environment (sea ice) will not be able to support polar bears at the same level as in the past (carrying capacity will decline) even though the population maintains its growth rate.*

Management Objectives

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- The harvest risk model evaluates the probability of achieving three potential management objectives at different levels of harvest
  - **Management Objective 1**: maintain a subpopulation size that achieves maximum sustainable yield
  - **Management Objective 2**: maintain current abundance
  - **Management Objective 3**: maintain a subpopulation size above a minimum threshold, below which there is a high risk of depletion

Risk Tolerance

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- "**Low**" risk = 90% chance of success (10% failure)
- "**Medium**" = 70% chance of success (30% failure)
- The same levels of risk tolerance should not be applied to all three alternative management objectives because the consequence of failing to meet each objective is different.

State-Dependent Harvest Management

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- The harvest strategies in the report assume that harvest levels do not remain constant into the future, and are updated periodically using new data from scientific studies or other sources on the current status of the subpopulation.
- The analysis assumes that new aerial surveys will be completed every 5 years.
- If we are not able to carry out this level of monitoring, a more conservative approach to harvest (i.e., a lower allowable harvest) will be necessary to avoid unsustainable harvest risk.

Main Conclusions – **Scenario 1 (Optimistic)**

40

Harvest strategies with an 80% probability of meeting **Management Objective 1** (maintaining a subpopulation size that achieves maximum sustainable harvest)

- **21 female bears/year**.
  - Similar to the mean observed harvest of females from 1986-2016.
  - 5.5% female harvest rate
  - The subpopulation would have a low possibility of crossing below the minimum abundance threshold and almost no possibility of extirpation.
  - Under **2:1 male to female** harvesting: **63 bears/year initially**
- Some concern that this scenario is overly optimistic with regard to future environmental conditions. It was evaluated in consideration of the Indigenous Knowledge information and associated IK assessment of the PBTC

Main Conclusions – **Scenario 1 (Optimistic)**

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Harvest level (female bears/year)	Female Harvest rate	Total Harvest rate (2:1 males to females)	Mean Female abundance	Mean Carrying Capacity	Mean female harvest level	Percent chance of local extinction (%)	*Percent chance of meeting Obj. 1 (%)*	*Percent chance of meeting Obj. 2 (%)*	*Percent chance of Meeting Obj. 3 (%)*
0	0.000	0.000	424	437	0	0	99	97	100
2	0.005	0.008	421	437	2	0	99	97	100
4	0.010	0.015	418	437	4	0	99	97	100
6	0.015	0.023	414	437	6	0	99	97	100
8	0.020	0.030	410	437	8	0	99	97	100
10	0.025	0.038	404	437	10	0	99	97	100
12	0.030	0.045	398	437	12	0	99	95	100
14	0.035	0.053	391	437	14	0	98	92	100
16	0.040	0.060	382	437	16	0	97	85	100
18	0.045	0.068	372	437	17	0	94	76	100
20	0.050	0.075	359	437	18	0	87	63	100
21	0.055	0.083	343	437	19	0	78	50	99
23	0.060	0.090	324	437	20	0	67	36	97

Main Conclusions – Scenario 2 (Middle)

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Harvest strategies with an 80% probability of meeting **Management Objective 1** (maintaining a subpopulation size that achieves maximum sustainable yield)

- **10 female bears/year.**
  - 2.5% female harvest rate
  - The subpopulation would have a low probability of crossing below the minimum abundance threshold and a negligible probability of going extinct
  - Under 2:1 male to female harvesting: 30 bears/year initially (20 male and 10 females), which equates to a 3.8% harvest rate for all bears
- **This is the option recommended by members of the Technical Working Group**

Main Conclusions – **Scenario 2 (Middle)**

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Harvest level (female bears/year)	Female Harvest rate	Total Harvest rate (2:1 males to females)	Mean Female abundance	Mean Carrying Capacity	Mean female harvest level	Percent chance of local extinction (%)	*Percent chance of meeting Obj. 1 (%)*	*Percent chance of meeting Obj. 2 (%)*	*Percent chance of Meeting Obj. 3 (%)*
0	0.000	0.000	466	474	0	0	100	100	100
2	0.005	0.008	456	474	2	0	99	99	100
4	0.010	0.015	443	474	4	0	99	98	100
6	0.015	0.023	429	474	7	0	97	96	100
8	0.020	0.030	412	474	8	0	92	89	100
10	0.025	0.038	392	474	10	0	84	81	99
12	0.030	0.045	369	474	11	0	75	70	98
14	0.035	0.053	344	474	12	0	63	57	96
16	0.040	0.060	316	474	13	0	51	43	90
18	0.045	0.068	286	474	13	0	38	29	83
20	0.050	0.075	255	474	13	0	26	19	74
21	0.055	0.083	222	474	13	2	17	11	64
23	0.060	0.090	190	474	12	6	10	06	52

Main Conclusions – **Scenario 3 (Pessimistic)**

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- **Scenario 3a** (strong decline in population growth potential)
  - **4 female bears/year.**
  - Probability of violating Management Objective 3 increased at 8 female bears/year, and the probability of extirpation increased at a harvest level of 18 female bears/year.
  - Demonstrates the potential for overexploitation when a subpopulation's capacity for growth is compromised by severe decline in habitat quality.

Harvest level (female bears/year)	Female Harvest rate	Total Harvest rate (2:1 males to females)	Mean Female abundance	Mean Carrying Capacity	Mean female harvest level	Percent chance of local extinction (%)	*Percent chance of meeting Obj. 1 (%)*	*Percent chance of meeting Obj. 2 (%)*	*Percent chance of Meeting Obj. 3 (%)*
0	0.000	0.000	492	518	0	0	99	100	100
2	0.005	0.008	463	518	2	0	91	95	100
4	0.010	0.015	432	518	4	0	79	81	100
6	0.015	0.023	400	518	6	0	67	70	100
8	0.020	0.030	367	518	8	0	56	59	98
10	0.025	0.038	332	518	9	0	46	48	90
12	0.030	0.045	297	518	9	0	36	39	80
14	0.035	0.053	262	518	10	0	25	29	69
16	0.040	0.060	227	518	10	0	15	18	58
18	0.045	0.068	192	518	9	1	7	08	48

Main Conclusions – Scenario 3 (Pessimistic)

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- **Scenario 3b** (rapid, nonlinear decline in *K*)
  - Relatively insensitive to harvest because decline in carrying capacity guaranteed that abundance would decline as well, and natural mortality due to density effects could be largely replaced by harvest without accelerating subpopulation declines.

Harvest level (female bears/year)	Female Harvest rate	Total Harvest rate (2:1 males to females)	Mean Female abundance	Mean Carrying Capacity	Mean female harvest level	Percent chance of local extinction (%)	Precent chance of meeting Obj. 1 (%)	Precent chance Of meeting Obj. 2 (%)	Precent chance Of Meeting Obj. 3 (%)
0	0.000	0.000	107	126	0	56	41	9	30
2	0.005	0.008	107	126	1	56	41	9	30
4	0.010	0.015	107	126	1	56	42	9	30
6	0.015	0.023	108	126	2	55	42	9	30
8	0.020	0.030	107	126	3	55	42	8	30
10	0.025	0.038	107	126	3	55	43	8	30
12	0.030	0.045	107	126	4	54	43	8	30
14	0.035	0.053	106	126	4	54	43	7	30
16	0.040	0.060	105	126	5	54	44	6	30
18	0.045	0.068	104	126	5	53	44	4	30
20	0.050	0.075	102	126	6	53	43	3	29
21	0.055	0.083	100	126	6	53	42	2	28

Technical Working Group Recommendation

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- The Technical Working Group suggests <u>Scenario 2</u> at a moderate degree of risk tolerance with respect to Management Objective 1.
- This would suggest female harvest levels of <u>8-12 female bears/year</u> (h = 0.02-0.03).
- This is equivalent to a total (i.e., female and male) harvest rate of approximately <u>16-24 bears</u> (2.0-3.0%) assuming a <u>1:1 male-to-female ratio</u> in the harvest
- or approximately <u>24-36 bears</u> (3.0-4.5%) assuming a <u>2:1 male-to-female ratio.</u>

The mid-range harvest strategies indicated above likely have the benefit of limiting lost opportunities for subsistence use if conditions are more like Scenario 1, while reducing the chances of severe overexploitation if conditions are more like Scenario 3.

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Agenda Item
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Indigenous Knowledge Presentations
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- Nunavut Inuit
- Nunavik Inuit
- Eeyou Istchee Cree

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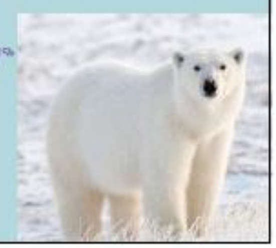

Agenda Item
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Eeyou Istchee Cree perspectives on management and defense of life kills
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Agenda Item
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Closing comments from Day 1
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Agenda Item
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Review of Day 1; Presentation of Day 2 Agenda
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Key points registered on Day 1

1. Meeting Purpose
2. Science
3. Indigenous Knowledge
4. Management Considerations

Meeting purpose

- Government representatives and Inuit/Cree knowledge holders are here to share information. The objective of this exchange is so that users can make well-informed recommendations to the Wildlife Management Boards about the level of harvest or other non-quota limitations moving forward.
- Government representatives are not here to impose a quota or decide the number of tags that will be issued for each community. They are sharing information collected over the last few decades using a scientific approach. In the same way, Inuit and Cree are sharing the information gathered in their own way with other communities, jurisdictions and researchers.
- All of the information shared at this meeting is evidence that users can apply to help them determine what their recommendations will be to the Wildlife Boards.

Scientific observations

- The lower aerial survey estimate of abundance in 2016 compared to 2012 had overlapping error estimates.
- Other signs such as lower litter size, a low proportion of yearlings, declining body condition and declining survival, are concerns that coincide with environmental change.

Indigenous Knowledge

- Inuit and Cree communities have been experiencing a higher level of human – polar bear interactions. Human safety concerns and impacts of polar bears on other wildlife (seals, eider ducks) are severe.
- The increase in polar bear encounters could be a result of a higher abundance of bears, changing distribution of bears, or changing behaviour by bears (such as spending more time on land and closer to settlements). It could be a combination of all three.

Management considerations (1)

- Polar bear harvest is culturally important to Inuit
- Communities must determine what level of risk they are willing to take regarding both:
    1. The potential for human - polar bear conflict that might result from maintaining a large subpopulation to maximize harvest opportunity in the long-term
    2. The impact of a higher level of harvest could become detrimental to the survival of the subpopulation

Management considerations (2)

- Everyone has the right to defend themselves
- Harvest should be shared equitably
- Traditional methods of wildlife stewardship are of great importance to Nunavik Inuit and feel it should be part of management
- Improvements should be made in including users in the planning, conducting, and analysis of survey results.

Do these comments summarize the key points of yesterday's discussion?

Agenda for Day 2

- Discussion of user recommended management objectives
- Discussion of non-quota limitations
- Discussion on allocation of harvest among user groups
- Determine where there is consensus among users and where there are differences of opinion
- Describe the next steps

Agenda Item
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Discussion of user recommended management objectives
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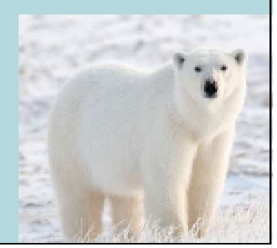

Objectives considered in the harvest risk model

- Management Objective 1: maintain a subpopulation size that allows for maximum harvest in the long term
- Management Objective 2: maintain current abundance
- Management Objective 3: maintain a subpopulation size above a minimum number, below which there is a high risk

Considerations

- The presented management objectives are suggestions
- Do you wish to:
  - Harvest at a **lower rate** to reduce the risk of subpopulation decline because of concerns about future environmental change?
  - Continue to harvest at **around the same level** to maximize harvest in the long term?
  - **Increase the harvest** in consideration of Indigenous Knowledge and to account for increased polar bear encounters and defense kills?

Which management objective do you recommend?

Agenda Item
10

Discussion of non-quota limitations
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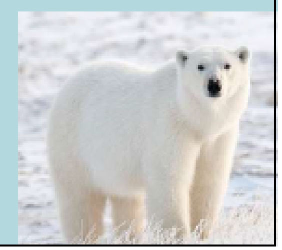

Non-quota limitations

In both the Nunavut Settlement Area and the Nunavik Marine Region, existing harvest limits were established assuming a sex selective harvest of two males for every female and a flexible quota system to adjust for over-harvest (subtract from base allocation the next year) or under-harvest (accumulation of credits for use in future years).

Sex-selective harvesting was implemented to allow the maximum possible number of bears to be removed sustainably each year, recognizing that the removal of breeding-age female polar bears has a larger effect on population dynamics than the removal of male polar bears in most situations.

Should sex-selective harvest (2 males per 1 female) be implemented in this subpopulation?

Would users prefer that harvesting of up to 1 female per 1 male be implemented if it means a lower total harvest?

For example,

In the harvest risk model, under the middle of the road scenario for future environmental conditions and a maximum sustainable yield objective there was support for a harvest of up to

- 12 females per year
- This equates to 24 bears in total assuming a 1:1 male-to-female ratio
- This equates to 36 bears in total assuming a 2:1 male-to-female ratio

What other non-quota limitations do you recommend users make to the Boards?

Agenda Item

11

Discussion on allocation of harvest among user groups

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Background: Current and Historical Harvest

Previous harvest limits: Total Allowable Harvest (TAH)/Total Allowable Take (TAT)/Voluntary Agreement (VA) and reported harvest (H) over the last 10 years

Hunting season	Nunavut †		Québec ‡		Ontario	
	Limit	H	Limit	H	Limit	H
2008/2009	25 (TAH)	26	None	9	None	3
2009/2010	25 (TAH)	25	None	36	None	1
2010/2011	30 (TAH)	30	None	74	None	0
2011/2012	25 (TAH)	25	30 (VA)	22	None	4
2012/2013	25 (TAH)	26	30 (VA)	33	None	2
2013/2014	25 (TAH)	27	30 (VA)	11	None	0
2014/2015	20 (VA)	20	23 (VA)	22	None	1
2015/2016	20 (VA)	20	22 (VA)	19	None	2
2016/2017	25 (TAH)	22	23 (TAT)	7	None	2
2017/2018	25 (TAH)	28	23 (TAT)	5	None	0

† In 2014/2015 Inuit in Sanikiluaq voluntarily reduced their harvest quota to 20 polar bears (hence the change to VA = 20 in 2014/2015). In 2016/2017 Sanikiluaq reverted the TAH that was established by the NWMB before the voluntary reduction.
‡ The TAT that has been in place since 2016/2017 applies only to the Nunavik Marine Region, including the "Inuit Zone" and the "Joint Inuit/Cree Zone" but excluding the "Cree Zone" of the Inuit/Cree Offshore Overlapping Interests Area. There is no TAT in force on the remaining portion of the Eeyou Marine Region nor on the mainland of Québec.

Average annual take by Ontario and Québec Cree

Ontario:

4.2 human-caused polar bear deaths were reported per year in average from 1994/1995 to 2016/2017

1.8 human-caused polar bear deaths have been reported per year in average since polar bear was listed as Threatened species in Ontario (2011/2012)

Québec:

0.7 human-caused polar bear deaths were reported per year in average ~~a~~ from 1994/1995 to 2017/2018.

1.1 human-caused polar bear deaths have been reported per year in average since 2011/2012.

Non-Inuit areas combined:

2.9 human-caused polar bear deaths have been reported per year in average in non-Inuit areas of Southern Hudson Bay since 2011/2012

What should the proportional allocation of harvest be between user groups moving forward?

Agenda Item
12

Presentation of recommendations of the user-to-user group participants for validation
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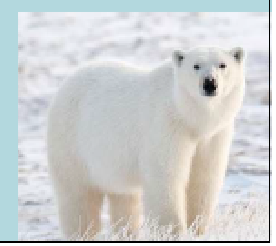

Agreement to Work Together

- •Suggestion of joint board/council hearings
- •Working within land claim agreements
- •Joint board decisions to work together not just on overlapping issues but onConcerns that collaring is negatively impacting health of polar bears (especially female)
- •Feel health is better than science is saying
- • shared resource

New management objective – increase the harvest

- •Discontinuation of interrupting mother bears
- •Health is better than presented
- •Concern about safety
- •Collaring is negatively impacting health of population
- •Ensure all Indigenous knowledge is included (Inuit, Cree)

Sex-selective harvest : Concerns

- •Based on IK
- •Experience seen in other species
- •How would sex selective harvest impact trade?
- •Training for younger hunters (identify sex)
- •Some allowance to harvest more males than females
- •Not always largest male
- •Not fixed on sex 2:1 ratio
- •Application to hunt cubs for special occasion
- •Not just harvesting for trade
- •Prefer to hunt when the animals are in their prime
- •For best taste (in summer)
- •For fur (not too good in summer)
- •Abandoned cubs?
- •Don't support polar bears in zoos

Proportional allocation

- •Discuss down the road with joint councils
- •Fair and equitable
- •3 communities (Nunavik) vs 1 community (Nunavut)
- •What are the criteria?
- •Inuit population increasing
- •Incorporate cultural knowledge and tradition
- •Work with Inuit knowledge for accurate data analysis - current data is outdated
- •Agreement #s need to be discussed earlier than later
- •More involvement with Inuit when determining TAH (rather given #s by science)

Agenda Item
13

Next steps
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Next Steps

- Report summarizing the information shared and recommendations made by users in community consultations and at this meeting will be prepared
- Southern Hudson Bay Polar Bear Advisory Committee to forward the Subpopulation Status Report, Harvest Risk Analysis, and Consultation Report to the NWMB, NMRWB, EMRWB, and HFTCC
- Boards to assess the information and determine their decisional processes (for example, joint written hearings, public hearings, etc)
- Interested parties to participate in Board decisional processes
- Boards to render initial decisions (HFTCC – advice) on new TAT/TAHs and forward them to responsible Ministers in accordance with Land Claims Agreements
- Government agencies to make initial/final decisions based on the information received and implement the final decisions

March 2020

April 2020

To be determined

Improving collaborative decision making

- Some significant changes have been made to how information is gathered and shared among co-management partners to support Wildlife Board decision-making about harvest levels
- The Southern Hudson Bay Polar Bear Advisory Committee would like to hear your views about additional improvements that can be made:
  - Study design and data collection
  - Consideration and use of Indigenous Knowledge throughout the process
  - Community consultations and user to user meeting
- Your comments can help us to collectively do a better job in the management of the Southern Hudson Bay Polar Bear Subpopulation
- They will also help to inform approaches in other shared subpopulations such as Foxe Basin and Davis Strait.

Acknowledgements

- Thank you to the people that worked to organize this event and to the community representatives for taking the time to consider the information, speak for their communities, and work together in a collaborative spirit

Agenda Item
14

Concluding remarks and closing of meeting
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ATTACHMENT 1: NUNAVIK INUIT COMMUNITY ENGAGEMENT REPORT

Inukjuak

January 27, 2020; Inukjuak Rec-Centre 7:15 – 9:30pm

Participants:

- Seven community participants
- Management authorities: Mark Mills (CWS), Barrie Ford (Makivik), Mark Basterfield (NMRWB)

Comments and questions:

- Tag Rules? When is a tag needed? Is it only when the hide is sold or only if someone is planning on taking it out of province? Action Item: Mark to contact MFFP to find out and let LNUK know.
- Who decides eventually on TAH on land? ANSWER: Quebec government
- What are the difference in rules for main land and offshore bears? If a bear is shot on ice is it still a "Quebec" bear?
- Nunavut IQ study is it all Nunavut or specific to Sanikiluaq? ANSWER: All of Nunavut including Sanikiluaq
- 50-60 years summed up by an elder: (translated by Jobie Epoo) He lived with his parents on the sea ice. No polar bears around while he was young. In his life only a few people were hunting polar bear, now more people are hunting and there seems to be more polar bear.
- Only a few spots good for bear, not more places. People who aren't "polar bear hunters" are now harvesting. There are more tracks seen and he belives the population has increased.
- Just this year there have been ~ 5-6 bears taken inland of Inukjuak thus far (not on the sea ice).
- There was a time when bears were rarely encountered, now people must always be vigilant when they go on the land. Inukjuak needs to have more people hunting polar bears.
- In the early days only Shaomic's father, Jobie Epoo's father and Lucassie were polar bear hunters.

- Very rare observations in the 1950's could be because less people and covering less land/sea area. It was rare to see tracks. In the 1960s the price of fur increased and more people are likely looking for polar bear. There was a real excitement in the community when someone came back with a polar bear, as it was such a rare event.

- When the value of the pelt increases more people are out hunting and when the value decreases less people hunting.

- More young people are coming back with polar bear.

- Inukjuak geographically naturally has more polar bear.

- It is difficult for people to accept number shown of decline when they see so many bears.

- Inukjuak is under a polar bear warning right now – possible Killer Whale carcass near by.

- As seen in slide 8, with the voluntary agreement, harvest actually decreases because of traditional management systems.

- Inukjuak is currently in the process of protecting the Ottawa Islands. This will protect future generations of polar bear. Bears are seen more inland. We need to protect the Ottawa Islands so they will have a safe haven. Bears will have a safe summer habitat and will keep off the mainland. Safer for bears and safer for Inuit campers.

- Habitat protection is a better solution than TAT.

- The regulatory regime is too complicated. There are too many jurisdictions and they are not working together. There are rules for some and not for others and it's not equal.

- Last meeting (2011) called by Sanikiluaq they wanted 25 bears, they got what they wanted and we went from 74 to 22. The people should have been compensated (or the community or Hunter Support Program etc.). If hunters were compensated for the value of the pelts of bears they must refrain from hunting, it would help protect the bears. A sum of maybe $100 000 to reduce the hunting pressure and protect the population would be good value.

- Sanikiluaq was not reasonable: for example, if the TAT for the population was 60 they got 25 even thought they are just 1 community. They didn't want to work well with others.

- It will be difficult of Inuit to accept a low number from the working group.

- Decreasing the TAT makes it hard to pass on the culture to the younger generation

Umiujaq

January 28, 2020 Umiujaq NV Office 9:30-12:00

Participants:

- 9 community participants
- Management authorities: Mark Mills (CWS); Barrie Ford (Makivik)

Comments and questions:

- Will this meeting in Montreal be similar to the meeting in Ottawa that was held in the past? ANSWER: It would be similar. We hope the approach this time – seeking consensus from the communities up – will be better.
- How will the meeting in Montreal be facilitated?
- Why are the Cree involved since they are new to hunting polar bears? “They don’t even go on the ice” Will their participation influence the TAT? ANSWER: While the Cree may not actively hunt the bears, they do have defence of life and property kills and they are looking for solution to the problem of bear-human conflicts and should be part of this discussion.
- Inuit do not like to eat bears that have been tranquilized.
- Is a defence kill taken from quota? ANSWER: It will have to be discussed in Mtl, but it would be taken from quota.
- When harvested we must thank “the lord” for the successful harvest.
- People would like to see Umiujaq get involved in polar bear population management and the TAT process.
- It was noted that some feel that the decision has already been made by the Government and that the consultation/meeting doesn’t matter since others have made up their mind regardless of the input from Inuit.
- Regarding the modelling can there be more than 3 scenarios and 3 objectives? ANSWER: It is their meeting and the recommendations belong to them. Intermediate objectives, scenarios and TAT numbers are possible. If the users can come to a consensus, it makes the decision of the boards easier.
- The feeling of the group was that the polar bear population is going up and expanding its range.
- There are more bears seen in the summer. Cubs are born on the nearby islands. Snow caves are seen on the islands
- Can Inuit legally “adopt” polar bear cubs as pets?
- What should the two people who are selected from the community discuss to get ready for the meeting? ANSWER: Suggested that they think about what kind of TAT they want, how it should be allocated between the communities and what management objectives and climate scenarios they support.

- The group felt that it would be useful to see the Agenda before the meeting. We reviewed together draft v.3 of the Agenda to give them an idea what to expect.
- Is it possible to not support the recommendations ie. No quota? Is this an option? ANSWER: It's not clear what the Boards would do with such a recommendation. One participant said that recommending no TAT would probably not be realistic.
- Barrie suggested that the Inuit members attending the meeting have a teleconference together to go over the agenda a few days earlier.

Kuujjuaraapik

January 30, 2020; Kuujjuaraapik Katittavik Hall 9:30-11:00

Participants:

- 11 community participants
- Management authorities: Mark Mills (CWS); Barrie Ford (Makivik)

Comments and questions:

- When they check for polar population why do they only check the coastline, when we have been seeing polar bear inland? ANSWER: There may have been transects inland, this can be clarified at the user-to-user meeting. There are ways of estimating the number of bears missed and this is calculated in the confidence interval.
- When is the next planned aerial survey? ANSWER: Not certain. There was a 2018 partial survey using the same method as in 2016 over the area where there was the largest concentration of bears. The results were similar to the 2016 survey. Since they are watching this population closely due to signs of decline it should be done if possible, every 5 years.
- The Risk Analysis assumes that there will be surveys every five years and mentions that the longer the period without surveys, the higher the risk. Action Item: Mark to find out and get back to Salamiva.
- When trophy hunting, do they report the catch?
- Why does Sanikiluaq get 1/3 of TAT? ANSWER: This will be an important subject during the user-to-user meeting.
- One participant mentions that when he goes out he often sees polar bear, but can't shoot them because Kuujjuaraapik only gets 1 or 2 TAT. 5-6 would be more appropriate for the community. People would go out more if this was the case. This is not right and he hopes Kuujjuaraapik will get a larger quota.
- We would want Kuujjuaraapik's quota increased, instead of sharing with Umiujuaq. (They get 1 and we get 2 or vice versa)
- Aerial survey: bears can be dirty with ground/soil and can camouflage themselves in the summer. This information should be given to the surveyors.
- One person mentioned never having tasted polar bear meat because so few bears are taken. She mentioned that three bears were taken in December. Someone

corrected her, saying that three bears were close to the community in December but only two were killed.

- Polar bears are seen more often in December (twice on December 15th). Bears were not seen in December in the past, but now it’s regular.
- More bears are seen every year.
- If a bear in Kuujjuarapik is not taken, it should not be given to another community. ANSWER: That is a good example of allocation that should be discussed at the user-to-user meeting.
- One person expressed that he personally believes that polar bear population is increasing and heathy (good condition)
- When they were hunting beluga at Long Island recently, some of the carcass was left left behind. The when they went back they saw polar bears around. They haven’t seen an unhealthy bear.

ATTACHMENT 2: NUNAVUT INUIT COMMUNITY ENGAGEMENT REPORT

Consultation with Sanikiluaq Hunters and Trappers Organization on the Southern Hudson Bay Polar Bear Survey Results, Status Report, and Harvest Risk Assessment

February 11, 2020

Nunavut

Department of Environment, Government of Nunavut, Iqaluit, Nunavut

Executive Summary

Government of Nunavut (GN), Department of Environment (DOE) representatives conducted consultations with Sanikiluaq Hunters and Trappers Organization (HTO) on February 11, 2020.

The intent of this consultation was to ensure the HTO was informed on the results of the 2016 aerial survey to estimate the abundance of Southern Hudson Bay (SH) Polar Bear, the status of the subpopulation, including Traditional Knowledge collected in the relevant jurisdictions, and the results of the Harvest Assessment Report that was completed using recent and historical survey results, historical harvest records, and population demographics. The results of the Harvest Assessment Report produced several management options based on a selection of proposed future population trends based on differing environmental scenarios. The management objective options and scenarios were presented to the HTO members. A DOE recommended management action or objective was not given during the consultation, but the DOE representatives highlighted the management objective option and scenario that was recommended by the Technical Working Group that prepared the Status Report and Harvest Assessment Report.

The consultation was also intended to ensure the HTO was well informed on all the most recent information for this subpopulation before sending representatives to an inter-jurisdictional User-to-User meeting in Montreal, Quebec from February 25-26, 2020. The purpose of the User-to-User meeting was to bring the users of the SH polar bear subpopulation together to discuss the desired management objective for this polar bear subpopulation and to determine what the allocation of harvest should be between jurisdictions/user groups.

The HTO expressed that the first scenario presented in Harvest Assessment Report, which was based more on Traditional Knowledge, was more likely to represent what the future trends in the environment and the polar bear subpopulation will be. There was consensus that polar bears are able to adapt well to changes in their environment, but a looming question was whether they should consider the idea of a reduced population to have healthier bears.

The feedback collected during this consultation will also aid the GN in future management and of the SH Polar Bear subpopulation.

This report attempts to summarize the comments made by participants during the consultation.

Preface

This report represents the Department of Environment's best efforts to accurately capture all of the information that was shared during a consultation meeting with the Hunters and Trappers Organization of Sanikiluaq on February 11, 2020.

The views expressed herein do not necessarily reflect those of the Department of Environment, or the Government of Nunavut.

1.0 Report Purpose and Structure

This report is intended to collate and summarize comments, questions, concerns and suggestions provided by the Sanikiluaq HTO in response to the 2016 Southern Hudson Bay (SH) Polar Bear aerial survey results, the subpopulation Status Report and the completed Harvest Assessment Report.

Representatives from the Department of Environment (DOE), the Nunavut Wildlife Management Board (NWMB), Nunavut Tunngavik Inc. (NTI), and the Qikiqtaaluk Wildlife Board (QWB) attended the consultation.

2.0 Purpose of Consultation

The purpose of the consultation was to work with the Sanikiluaq HTO and ensure that they are well informed of the results of the 2016 aerial survey on the SH Polar Bear subpopulation, the status of the subpopulation (as outlined in the Status Report), and the results of the Harvest Assessment Report completed by the Technical Working Group. In addition, the meeting also served the purpose to provide an opportunity for the HTO members to ask questions and to obtain clarifications on the reports and results. The results of the Harvest Assessment Report produced several management options based on a selection of proposed future population trend scenarios under various environmental scenarios. The management objective options and scenarios were presented to the HTO board members. A DOE recommended management action or new harvest limitations were not given during the consultation, but the DOE representatives highlighted which management objective option and scenario was recommended by the Technical Working Group that prepared the Status Report and Harvest Assessment Report.

The consultation was also intended to ensure the HTO was well informed on all the most recent information for this subpopulation before sending representatives to a User-to-User meeting in Montreal, Quebec from February 25-26, 2020. It was important that the Users work together to establish Management Objectives and how they want to manage this subpopulation in the future.

2.1 Format of Meetings

The meeting was held in the evening and ran for approximately 3 hours. The meeting was facilitated and led by the DOE Polar Bear Biologists, Markus Dyck and Jasmine Ware, and the DOE Senior Wildlife Advisor, Caryn Smith. The presentation started with opening remarks from Caryn Smith on the purpose of the consultation and the intent to ensure the HTO was prepared to send representatives to the User-to-User meeting in Montreal. This was followed by a presentation on the status of the SH polar bear subpopulation, given by Markus Dyck, and a presentation on the Harvest Assessment Report, given by Jasmine Ware. The participants were invited to ask questions, raise concerns, or provide advice during the presentation but were advised there would be breaks for questions. After the presentations, questions/discussion continued until no further questions were raised. DOE asked the HTO to internally discuss the management options and future scenarios and to share this information with their local harvesters for further input.

3.0 Summary of Consultation

The objectives of the consultation were made clear to the HTO members prior to and at the start of the meeting.

Date: February 11, 2020

Representatives:

- GN-DOE, Polar Bear Biologist II, Markus Dyck
- GN-DOE, Polar Bear Biologist I, Jasmine Ware
- GN-DOE, Senior Wildlife Advisor, Caryn Smith
- GN-DOE, Senior Manager of Operations, Jason Aliqatuqtuq
- GN-DOE, Conservation Officer II, Daniel Qavvik
- NTI, Director of Wildlife, Paul Irngaut
- NWMB, Wildlife Management Biologist, Kyle Ritchie
- QWB, Chairman, James Qillaq
- Translator, Dinah Kavik
- Sanikiluaq HTO Board members
    - Eli Kavik, Chairman
    - Lucassie Arragtainaq, Manager
    - Puasi Ippak, Board Member
    - Joe Arrangutainaq, Board Member
    - Alec Ippak, Board Member
    - Johnny Oqaituk, Board Member

Comments and questions:

- The long history of high compliance harvest reporting and harvest management by the community of Sanikiluaq was commended and the high quality of harvest samples sent to the DOE polar bear lab was emphasized.
- The HTO members pointed out their disappointment in the lack of a system for regular harvest reporting in Quebec and they feel that the reported average harvest is much higher than 12.8 bears.
- There were concerns that the underestimated harvest in Quebec makes the harvest in Nunavut look more unsustainable, even though it is based on a near 100% reporting rate, and there will be pressure on Sanikiluaq to reduce their harvest.
- One of the elders on the board pointed out that this year’s harvest season, and the ice conditions have not been as safe as compared to previous years and that some areas of

water have not frozen over completely because of snow cover. These changing ice conditions are a concern for the future harvest of polar bears in their area.

- The HTO manger expressed concern over how the HTO would decide which scenario, as presented in the Harvest Assessment Report, would be the appropriate one. The DOE representatives elaborated on the information that was used to develop the environmental scenarios, including varying emphasis on the Traditional Knowledge and the Science based on historical trends. It was up to the HTO and community members to assess what scenario they felt would best reflect the future environmental trends, as they were more familiar with their environment and how well bears would be able to adapt to environmental changes.
- The HTO manager pointed out that Inuit and polar bears are able to adapt well to changes and that Scenarios 1 and 2 would be the best to focus on. There were concerns regarding the impact of polar bears on the environment if there were too many for the habitat to support (e.g. the destruction of egg colonies), and there were also concerns about the impacts of environmental changes on the animals that are part of the polar bear diet. No one wants to see starving bears and would much rather see the habitat supporting healthy bears. They also want to ensure a higher population wouldn't negatively impact bird colonies. The NTI representative, Paul Irngaut, stated that NTI would support the HTO on whatever scenario they decided was most appropriate.
- The HTO members felt there was a need to consult with their local hunters before they could make any decisions on the environmental scenario and management option they chose to support.
- An elder from the HTO expressed that the future trends that their forefathers had predicted, before there were survey reports, seemed to be coming true and his generation was now able to have reports and meetings to discuss these changes.
- The HTO manager pointed out that local hunters were beginning to feel that hunting polar bears might not be worth it going forward because of low prices for the hides. If meat becomes the only thing driving the polar bear hunt, the harvesters will likely turn to hunting other species. Even though it is becoming financially difficult to continue hunting polar bears, there is a desire to ensure that the traditions and skills involved with hunting bears is carried forward into the next generations. This translates to a desire to ensure the existing polar bear subpopulation is conserved at a level to allow future harvesting.
- The DOE Senior Manager of Operations, Jason Aliqatuqtuq, pointed out that many Inuit want the traditions and skills involved in hunting polar bears to carry on in future generations so it is important that the Users of the subpopulation determine whether or not they want the population to grow (maximum sustainable yield), stay the same (maintain a stable population), or to lower (a managed decrease).
- It was discussed that under Scenario 1 from the Harvest Assessment Report, the sustainable harvest options (harvest numbers that would achieve a maximum sustainable yield) would not necessarily result in a reduced TAH recommendation for the subpopulation. The current harvest is approximately 50-55 for the subpopulation

and a possible overall TAH for the subpopulation assuming Scenario 1 would be 63 bears at a 2:1 harvest sex ratio (42 bears at a 1:1 harvest sex ratio).

- There was discussion on the desire to try to maintain a reasonable harvest limit even though there is a current drop in the interest to hunt; there may be increased interest to hunt in the future, especially if the price of polar bear hides improves.
- The HTO would like to see a harvest that everyone is comfortable with but would not limit opportunities down the road.

4.0 Summary

The HTO Chairman expressed that the DOE had provided them with a clear presentation, and they felt more prepared, with better information, to meet with their hunters and come up with a position before attending the User-to-User meeting in Montreal. The biggest concerns for the hunters in their community was the low price for polar bear pelts, which has made polar bear hunting financially difficult for people and now there may need to be a shift to hunting other species. The reduced interest in harvesting polar bears conflicts with the community's desire to maintain traditional harvesting practices and skills for future generations and the insurance that their families will be able to continue to consume traditional country foods. The HTO members felt that the first scenario presented by Harvest Assessment Report, which was based more on Traditional Knowledge, was more likely to represent what the future trends in the environment and the polar bear subpopulation will be. There was consensus that polar bears are able to adapt well to changes in their environment, but a looming question was whether they should consider the idea of a reduced population to have healthier bears. The habitat may not be able to support higher numbers as environmental changes occur. The HTO members were reminded that they could contact the DOE representatives if they needed any further clarity on any of the information presented, before they attended the User-to-User meeting in Montreal.

ATTACHMENT 3: ONTARIO CREE COMMUNITY ENGAGEMENT REPORT

Community engagement meetings were arranged by the Canadian Wildlife Service, in consultation with Ontario Ministry of Natural Resources and Forestry, in the communities of Fort Severn, Peawanuck, and Attawapiskat, Ontario. These are the three northern most Ontario coastal Cree communities and ones that most frequently interact with polar bear. In advance of the community meetings, written materials were shared with the Chief and Council in each location and polar bear issues were discussed with community leaders (Chief, band staff) over the phone. Outreach materials concerning polar bear management also were shared with the Chief and Council in the communities of Kashechewan, Fort Albany, and Moose Cree; however the communities did not respond to express an interest in an in person consultation. Finally, written materials were shared with the Mushkegowuk Council and advice about polar bear management and outreach to Ontario Cree rights holders was obtained from Vernon Cheechoo (Director Lands & Resources).

Fort Severn

A consultation meeting in Fort Severn was confirmed for December 12 and 13, 2019; however the meeting was postponed at the request of the community several days before. A rescheduled meeting, planned March 2020 was also postponed due to COVID-19 concerns. Telephone conversations with Chief Paul Burke focused on community interest in holding a workshop to discuss and share information about what to do in a polar bear encounter, developing a community plan for reducing attractants and training/funding guardians to deter bears from coming into the community during certain seasons, collecting data about polar bear observations/denning areas. In late November and early December, a polar bear had been shot in town and another tried to break into someone's house. 4-5 bears have been in town in the weeks before the planned consultation – making polar bear issues front of mind.

Canadian Wildlife Service intention is to work with Ontario Ministry of Natural Resources and Forestry to schedule an in person meeting when COVID-19 conditions allow, with a focus on co-developing programs with the community reduce human-bear conflict and ensure all take is reported to management authorities.

Peawanuck

December 10, 2019; Band office and community hall

Participants:

- Community: Linda Hunter (Peawanuck Band Council, Land Use Planner), 12 community members attended evening session meeting

- Management authorities: Sam Iverson and Stephanie Rowley (CWS)

Comments and questions:

- Many questions about the status of polar bears and changes in behavior.
- When asked about observations of numbers, 3 different people said they were about the same as in the past. No other responses given
- One man sees 10-20 yearlings per year; not declining
- They see them moving around inland more often than they used to, sometimes far from the coast
- Property damage was mentioned as a concern by 4 people. Polar bear often bite into cached fuel, they go after snowmobile seats, they often damage cabins and camping equipment
- One elder noted that the further north they go, the better to prevent property damage
- Generally, there is not an interest in harvesting polar bear. One young hunter indicated that there might be if there was a market for the fur
- Many questions about climate change and sea ice loss across the entire range. Are the affects the same throughout Canada?
- Adults will eat the yearlings – some have seen adults in good condition, but the younger bears are not
- The bears come in around Christmas time to den
- In the past, we hunted polar bear for pelts, but then a quota of 10 bears per year was put in place. We needed tags at that time
- When we do have a defense kill, we use the bear for moccasins and mitts
- There were questions about the Quebec side, and whether or not they see as many as those in Peawanuck do
- Questions about polar bear biology, i.e. how do they navigate in the wild? Why do we see some in the same location every year?
- Would bear spray work to deter a polar bear?
- Differences in behaviour of young vs. old bears – young and thin are the most dangerous .Two years ago there was a bear outside a home, it was shot through a window
- Two people said that to their knowledge, every bear that comes into town needs to be killed
- Tourism – Sam Hunter used to run excursions to see bears. They would watch the bears eat seals. It was too expensive for tourists to travel to Peawanuck. A person could fly to Europe twice for the same cost.
- One man spoke of his experiences watching polar bears – once he saw a bear swimming and holding its foot. He thought it was funny, but when the bear got out of

the water, it disappeared into the grass. Grasses are becoming more diverse and dense

- We moved to Peawanuck in 1986, why do the bears travel so far south now. They never used to
- Peawanuck only kills for safety reasons
- Comments from Linda hunter:
    - 4 polar bear interactions this year in the community: December 2018, passing through town, chased away, March 2019: female with cubs walked through town, no incident; August/Sept 2019: young bear, skinny, walking between two houses, came toward a kid and was killed by a community member; End of October/early November 2019, young looking bear (three year old bear) on a trash bin at the airport. Chased away.
    - When asked about change from the past with regard to bears in town – replied same in numbers, just skinnier. Seeing more orcas in the bay, orcas hunting beluga.
    - When a polar bear kill occurs by a community member, it requires a 12-page report, whereas police only have one page report. Other communities don't have to do this lengthy report, as they are not within a provincial park. The report includes information on the bear and why it was killed – dimensions, general condition, proximity to town, tooth sample taken, etc.
    - Noted that Peawanuck under 1976 agreement Peawanuck has a quota of 12 (Fort Severn 12, down the coast 4).
    - Community knows where denning locations are and when, where, why polar bear pass through, thinks that further south they don't always know this. This is the time of year mothers will start walking and denning in the forest, so you might see them near town. Older bears are less likely to interact with humans, but the younger ones are more curious.
    - Best way for Canada and Ontario governments to contribute reporting of kills and reduce their frequency would be to fund the monitoring that occurs through the guardians program.

Attawapiskat

A consultation meeting in Attawapiskat was confirmed for December 9 and 10, 2019; however the meeting was postponed at the request of the community. A rescheduled meeting, planned March 2020 was also postponed due to COVID-19 concerns. Telephone conversations with Chief David Nakogee focused on defense of life and property concerns and the possibility of holding a workshop to share information about what to do in a polar bear encounter and developing a community plan for reducing attractants. Canadian Wildlife Service intention is to work with Ontario Ministry of Natural Resources and Forestry to schedule an in person meeting when COVID-19 conditions allow, with a focus on co-developing programs with the community reduce human-bear conflict and ensure all take is reported to management authorities.

ᑲᑎᒪᖃᑎᖃᕐᓂᖅ ᓴᓂᕿᓗᐊᑉ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᖏᓐᓂᑦ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᒋᖅᐸᓯᐊᑕ ᓇᓄᕐᑎᖏᑦᑕ ᖃᐅᔨᓴᖅᑕᐅᔾᔪᖕᒐᓄᑦ, ᖃᓄᐃᓕᖕᒐᓂᖏᓐᓄᑦ ᐅᓂᒃᑳᖅ, ᐊᓯᕙᖃᑦᑕᕐᓂᕐᒨᓗ ᐊᑦᑕᕐᓇᑐᐃᓐᓇᕆᐊᓖᑦ

ᕕᕗᐊᕆ 11, 2020

ᐊᕙᑎᓕᕆᔨᒃᑯᑦ, ᓄᓇᕗᑦ ᒐᕙᒪᒃᑯᖏᑦ, ᐃᖃᓗᐃᑦ, ᓄᓇᕗᑦ

ᐊᐅᓚᑦᑎᔨᓂᙳᖅᑐᑦ ᓇᐃᓈᖅᓯᒪᔪᖅ

ᓄᓇᕗᑦ ᒐᕙᒪᖓ, ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑭᒡᒐᖅᑐᖅᑎᖏᑦ ᑲᑎᒪᖃᑎᖃᓚᐅᖅᑐᑦ ᓴᓂᑭᓗᐊᑉ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᖏᓐᓂᑦ ᕕᕗᐊᕆ 11, 2020−ᒥᑦ.

ᑲᑎᒪᔾᔪᑎᖃᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᕈᒪᓪᓗᑎᒃ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᑐᓴᐅᒪᒐᓗᐊᕐᒪᖔᑦ 2016 ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᐅᓚᐅᖅᑐᒥᒃ ᓇᓚᐅᑦᑖᕈᒪᓪᓗᑎᒃ ᖃᓄᖅ ᐅᓄᖅᑎᒋᓂᖏᓐᓂᒃ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᒋᖅᐸᓯᐊᑕ ᓇᓄᕐᑯᑎᖏᓐᓂᑦ, ᖃᓄᐃᑦᑑᓂᖏᓐᓂᑦ, ᐱᖃᓯᐅᑎᓪᓗᓂᑦ ᖃᐅᔨᒪᔭᐅᔪᑐᖃᑦ ᑲᑎᖅᓱᖅᑕᐅᓯᒪᔪᑦ ᖃᓂᒋᔭᖓᓂᑦ, ᖃᓄᕐᓗ ᐊᑦᑕᕐᓇᕋᔭᕐᓂᖓᓂᑦ ᖃᐅᔨᓴᕐᓂᖅ ᓇᓄᖃᑦᑕᕐᓂᕐᒧᑦ ᐱᔭᕇᖅᑕᐅᓚᐅᖅᑐᖅ ᐊᑐᖅᓘᑎᒃ ᒫᓇᓕᓴᕐᓂᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᑯᓂᓪᓗ ᖃᐅᔨᓴᕈᑎᓂᒃ, ᓇᓄᒃᑕᐅᖃᑦᑕᕐᓂᑯᓂᑦ, ᖃᓄᕐᓗ ᐅᓄᖅᑎᒋᓂᖏᓐᓂᑦ. ᐊᑦᑕᕐᓇᑐᐃᓐᓇᕆᐊᓕᖓᓄ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᐊᒥᓱᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᓂᒃ ᓂᕈᐊᒐᒃᓴᓕᐅᕈᑕᐅᓚᐅᖅᐳᖅ ᓯᕗᓂᒃᓴᒥᑦ ᖃᓄᖅ ᐅᓄᖅᑎᒋᓂᖏᓐᓄᑦ ᒪᓕᒡᓗᒋᑦ ᐊᔾᔨᒌᙵᒋᑦᑐᑦ ᐊᕙᑎᒋᔭᖏᑦ. ᐊᐅᓚᑦᑎᔾᔪᓰᑦ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᕆᐋᓪᓗ ᐅᓂᒃᑳᓯᐅᓚᐅᖅᑐᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᓐᓄᑦ. ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐊᑐᓕᖁᔨᓚᐅᙱᓚᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᒥᑦ ᑎᑭᐅᑎᓇᓱᐊᕐᓂᕐᒥᒡᎱᓐᓃᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ, ᑭᓯᐊᓂ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑭᒡᒐᖅᑐᖅᑎᖏᑦ ᓇᓗᓇᐃᓚᐅᖅᑐᑦ ᐊᐅᓚᑦᑎᔾᔪᑕᐅᔫᓇᖅᑐᖅ ᐊᑐᖅᑕᐅᔫᓇᖅᑐᕐᓗ ᐅᖃᐅᓯᐅᓚᐅᖅᑐᖅ ᐱᔭᕆᑐᓕᕆᔨᓂᒃ ᐱᕗᒌᔭᐃᓚᐅᖅᑐᑦ ᖃᓄᐃᑦᑑᓂᖓᓂᑦ ᐅᓂᒃᑳᒥᑦ ᐊᒻᒪ ᓇᓄᓯᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐊᑦᑕᕐᓇᕈᓇᖅᑐᓄᑦ ᐅᓂᒃᑳᒥᑦ.

ᑲᑎᒪᖃᑎᖃᓚᐅᖅᐳᑦ ᓇᓗᓇᐃᕈᒪᓪᓗᑎᒃ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᑐᓴᐅᒪᑦᑎᐊᕋᓗᐊᕐᒪᖔᑦ ᑕᒪᐃᓐᓂ ᒫᓇᓕᓴᕐᓂᒃ ᑐᓴᐅᒪᔾᔪᑎᓂᒃ ᑕᒪᒃᑯᓄᖓ ᓇᓄᕐᓄᑦ ᑭᒡᒐᖅᑐᖅᑎᐅᔪᑦ ᐊᓯᐊᓄ ᑲᑎᒪᔭᖅᑐᓚᐅᙱᓐᓂᖏᓐᓂᒃ ᒪᓐᑐᕆᐋᓕ, ᑯᐸᐃᖕᒧᑦ ᕕᕗᐊᕆ 25-26, 2020−ᒥᑦ. ᑲᑎᒪᔾᔪᑎᖃᓚᐅᖅᐳᑦ ᐊᑐᖃᑦᑕᖅᑐᑦ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᒋᖅᐸᓯᐊᓂᑦ ᓇᓄᕐᑯᖏᓐᓂᑦ ᐅᖃᖃᑎᒋᔪᒪᓪᓗᒋᑦ ᐊᐅᓚᑦᑎᔾᔪᑕᐅᔪᒪᔪᑦ ᓇᓄᕐᓄᑦ ᓇᓗᓇᐃᕈᒪᓪᓗᑎᓪᓗ ᖃᓄᑎᒋ ᓇᓄᒃᑲᑦᑕᕈᓇᕐᒪᖔᑦ ᓄᓇᖃᖅᑎᐅᔪᑦ/ᐊᑐᖅᐸᒃᑐᑦ.

ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᓇᓗᓇᐃᓚᐅᖅᑐᑦ ᓯᕗᓪᓕᖅᐹᖅ ᐅᓂᒃᑲᐅᓯᐅᔪᖅ ᐊᑦᑕᕐᓇᑐᐃᓐᓇᕆᐊᓕᖓᓄ ᐅᓂᒃᑳᕐᒥᑦ, ᑐᙵᕕᖃᕐᓂᖅᓴᐅᓪᓗᓂᑦ ᖃᐅᔨᒪᔭᐅᔪᑐᖃᕐᓂᑦ, ᑭᒡᒐᖅᑐᐃᓂᖅᓴᐅᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᑦ ᓯᕗᓂᒃᓴᒥᑦ ᖃᓄᐃᑉᐸᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐊᕙᑎᖓᓂᑦ ᓇᓄᕐᑯᑎᖏᓐᓂᓪᓗ. ᐊᖏᖃᑎᒌᖕᓂᖅᑕᖃᓚᐅᖅᑐᖅ ᓇᓄᐃᑦ ᓱᖏᐅᑎᔪᓇᕐᓂᖏᓐᓂᒃ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᔪᓄᑦ ᐊᕙᑎᒥᖕᓂᑦ, ᑭᓯᐊᓂ ᐊᐱᖅᑯᑕᐅᕗᓪᓕᐊᑐᐃᓐᓇᓚᐅᖅᑐᖅ ᐅᓄᕈᓐᓂᖅᑎᒋᐊᕐᓗᒋᑦ ᓇᓄᐃᑦ ᖃᓄᐃᙶᒋᑦᑎᐊᕐᓂᖅᓴᐅᕐᑯᓪᓗᒋᑦ.

ᐅᖃᐅᓯᒃᓴᕆᔭᐅᔪᑦ ᑲᑎᒪᖃᑦᑕᖅᑎᓪᓗᒋᑦ ᐃᑲᔫᑕᐅᓂᐊᕐᒥᔪᑦ ᓄᓇᕗᑦ ᒐᕙᒪᖓᓂ ᓯᕗᓂᒃᓴᒥᑦ ᐊᐅᓚᑦᑎᔾᔪᑎᓄᑦ ᐊᒻᒪ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᒋᖅᐸᓯᐊᑕ ᓇᓄᕐᑯᑎᖏᓐᓄᑦ.

ᐅᓇ ᐅᓂᒃᑳᖅ ᓇᐃᓪᓕᒋᐊᕆᓯᒪᔪᑦ ᐅᖃᐅᓯᐅᓚᐅᖅᑐᓂᑦ ᑐᓴᕋᒃᑎᓪᓗᑕ.

ᐱᒋᐊᖅᓂᖅᑲ

ᐅᓇ ᐅᓂᒃᑳᖅ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐱᓇᔪᑦᑎᐊᕈᓐᓇᖅᓂᓕᒫᖅᑭᓐᓂᑦ ᑕᒡᒪᖅᓯᒪᙱᑦᑐᓂᑦ ᐃᓕᐅᖅᑲᐃᓇᓱᒃᓯᒪᔪᑦ ᑐᓴᖅᑕᐅᓯᒪᔪᓕᒫᓂᑦ ᑐᓴᕋᓱᑎᐊᖅᑎᓪᓗᒋᑦ ᑲᑎᒪᓪᓗᑎᒃ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᓐᓂᑦ ᓴᓂᑭᓗᐊᕐᒥᑦ ᕕᕗᐊᕆ 11, 2020−ᒥᑦ.

ᐃᓱᒪᒋᔭᖅᑭᑦ ᓴᖅᑭᑕ ᐅᕙᓂ ᐊᔾᔨᒋᓗᐊᒻᒪᕆᙱᑦᓚᖅᑭᑦ ᐊᕙᑎᓕᕆᔨᒃᑯᑦ, ᓄᓇᕗᒻᒥᐅᓐᓃᑦ ᑲᕙᒪᒃᑯᑦ.

ᐃᓗᓕᖏᑦ

1.0 ᐅᓂᒃᑳᑉ ᐱᔾᔪᑖ ᐋᖅᑭᒃᓯᒪᓂᖓᓗ

ᑖᓐᓇ ᐅᓂᒃᑳᖅ ᑲᑎᖅᓱᐃᔾᔪᑕᐅᓇᓱᐊᖅᐳᖅ ᐅᖃᐅᓯᒃᓴᙱᔭᐅᔪᓂᒃ, ᐊᐱᖅᑯᑕᐅᔪᓂᒃ, ᐃᓱᒫᓗᑕᐅᔪᓂᒃ ᖃᓄᐃᓕᐅᕈᑕᐅᙱᔭᐅᔪᓂᓪᓗ ᓴᓂᑭᓗᐊᖅ ᐊᖑᓇᓱᒃᑐᓕᕆᔾᔪᑎᒃᑯᖏᓐᓂᑦ ᑭᐊᔾᔪᑕᐅᓗᓂᑦ 2016 ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᕆᐊᓂᑦ ᓇᓄᙱᑎᖏᓐᓂ ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᙱᓂᖅ, ᓇᓄᙱᑎᖏᑦᑕ ᒥᒃᓵᓄᑦ ᐅᓂᒃᑳᖅ ᐊᒻᒪ ᐱᔭᕇᖅᓯᒪᔪᖅ ᐊᑦᑕᙱᓇᕈᓐᓇᖅᑐᓄᑦ ᐅᓂᒃᑳᖅ.

ᑭᓪᓚᖅᑐᐃᔾᑕᖃᓚᐅᖅᑐᖅ ᐊᕙᑎᓕᕆᔾᔪᑎᒃᑯᓐᓂᑦ, ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔩᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ, ᓄᓇᕗᑦ ᑐᖕᖓᕕᒃᑯᑦ, ᕿᑭᖅᑖᓗᒃ ᐆᒪᔪᓕᕆᔩᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓪᓗ ᐅᐸᒃᑕᓚᐅᖅᑐᑦ ᑐᓴᕋᓱᙵᓂᙵᓂᑦ.

2.0 ᑐᓴᕋᓱᙵᓂᙵᑦ ᐱᔾᔪᑖ

ᑲᑎᒪᔾᔪᑎᖃᓚᐅᖅᑐᑦ ᐱᓕᕆᖃᑎᖃᕈᒪᓪᓗᑎᒃ ᓴᓂᑭᓗᐊᖅ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᖏᓐᓂᑦ ᓇᓗᓇᐃᕈᒪᓪᓗᑎᓪᓗ ᑐᓴᐅᒪᑦᑎᐊᕋᓗᐊᕐᒪᖔᑦ 2016 ᖃᖓᑕᓲᒃᑯᑦ ᖃᐅᔨᓴᕐᓂᕐᒥᑦ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᕆᐊᓂᑦ ᓇᓄᙱᑎᖏᓐᓂᑦ, ᖃᓄᐃᑦᑐᓂᖏᓐᓂᑦ ᓇᓄᙱᑎᖏᑦ (ᐅᓂᒃᑳᖅᓯᒪᔪᖅ ᖃᓄᐃᑦᑐᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᕐᒥᑦ), ᖃᐅᔨᓴᐅᕙᓪᓕᐊᔪᓪᓗ ᐊᑦᑕᙱᓇᑐᐃᓐᓇᖁᐊᓕᙶ ᖃᐅᔨᓴᖅᑕᐅᓚᐅᖅᑐᒥᒃ ᐱᔭᕆᑐᔪᓕᕆᔨᓄᑦ. ᐃᓚᓗᒍᑦ, ᑲᑎᒪᑎᓪᓗᒋᑦ ᐱᔾᔪᑎᖃᓚᐅᕆᕗᖅ ᐱᕓᖃᕐᑯᓪᓗᒋᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᑦ ᐊᐱᖅᓱᖃᑦᑕᕈᓐᓇᕐᓂᕐᒥᑦ ᓇᓗᓇᐃᕐᕕᐅᔫᓇᕐᓂᕐᒥᓪᓗ ᐅᓂᒃᑳᕐᓂᑦ ᖃᐅᔨᓴᐅᕙᓪᓕᐊᔪᓂᓪᓗ. ᐊᑦᑕᙱᓇᑐᐃᓐᓇᖁᐊᓕᙵ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᐊᒥᓱᓂᒃ ᐊᐅᓚᑦᑎᔾᔪᑎᓂᒃ ᓂᕈᐊᒐᒃᓴᓕᐅᕈᑕᐅᓚᐅᖅᐳᖅ ᓯᕗᓂᒃᓴᒥᑦ ᖃᓄᖅ ᐅᓄᖅᑎᒋᓂᖏᓐᓄᑦ ᐊᑐᑐᐃᓐᓇᖁᐊᓕᙶᓐᓂᑦ ᖃᓄᑯᓘᔭᖅ ᐊᕙᑎᒋᔭᖏᓐᓄᑦ. ᐊᐅᓚᑦᑎᔾᔫᑦ ᐊᑐᖅᑕᐅᑐᐃᓐᓇᕆᐊᓖᓪᓗ ᐅᓂᒃᑲᐅᓯᐅᓚᐅᖅᑐᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᑦ ᑲᑎᒪᔩᖏᓐᓄᑦ. ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᐊᑐᓕᖅᑯᔩᓚᐅᙱᓚᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᒥᑦ ᓄᑖᕐᒥᒃᓘᓐᓃᑦ ᖁᔨᕗᑭᓇᕐᓂᕐᒥᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ, ᑭᓱᐊᓂ ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᑭᓪᓚᖅᑐᖅᑎᙱᑦ ᓇᓗᓇᐃᓚᐅᖅᑐᑦ ᓇᓪᓕᐊ ᐊᐅᓚᑦᑎᔾᔪᑕᐅᔫᓇᖅᑐᖅ ᐊᑐᖅᑕᐅᔫᓇᖅᑐᕐᓗ ᐅᖃᐅᓯᐅᓪᓗᓂᑦ ᐱᔭᕆᑐᓕᕆᔩᓂᒃ ᐱᕕᒌᔭᐃᓚᐅᖅᑐᑦ ᖃᓄᐃᑦᑐᓂᖓᓂᑦ ᐅᓂᒃᑲᒥᑦ ᐊᒻᒪ ᓇᓐᓄᕕᓱᖃᑦᑕᕐᓂᕐᒧᑦ ᐊᑦᑕᙱᓇᕈᓐᓇᖅᑐᓄᑦ ᐅᓂᒃᑲᒥᑦ.

ᑲᑎᒪᖃᑎᖃᓚᐅᖅᐳᑦ ᓇᓗᓇᐃᕈᒪᓪᓗᑎᒃ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᑦ ᑐᓴᐅᒪᑦᑎᐊᕋᓗᐊᕐᒪᖔᑦ ᑕᒪᐃᓐᓂ ᒫᓐᓇᓕᒃᓴᕐᓂᒃ ᑐᓴᐅᒪᔾᔪᑎᓂᒃ ᑕᒪᒃᑯᓄᖓ ᓇᓄᕐᓄᑦ ᑭᓪᓚᖅᑐᖅᑎᐅᔪᑦ ᑲᑎᒪᔭᖅᑐᓚᐅᙱᓐᓂᖏᓐᓂᒃ ᒪᓐᑐᕆᐋᓪ, ᑯᐸᐃᖑᑦ ᕙᕗᐊᕆ 25-26, 2020−ᒥᑦ. ᐱᒪᕆᐅᓚᐅᖅᐳᖅ ᐱᓕᕆᖃᑎᒌᒋᐊᖃᕐᓂᖅ ᐋᖅᑮᖁᓪᓗᒋᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑎᑭᑕᐅᔪᒪᔪᓂᒃ ᖃᓄᕐᓗ ᐊᐅᓚᑦᑎᔪᒪᖕᒪᖔᑦ ᑕᒪᒃᑯᓂᖓ ᓇᓄᕐᓂᑦ ᓯᕗᓂᒃᓴᑦᑎᓐᓂ.

2.1 ᑲᑎᒪᓃᑦ ᐋᖅᑭᒃᓱᖅᓯᒪᓂᖏᑦ

ᑲᑎᒪᓚᐅᖅᑐᑦ ᐅᓐᓄᒃᑯᑦ ᐃᑲᕐᕿᑦ ᐱᖓᓱᓗᐊᕐᓄᑦ. ᑲᑎᒪᑎᑕᐅᓚᐅᖅᑐᑦ ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᓇᓄᓕᕆᔩᖏᓐᓂᑦ, ᒪᐅᑲᒃ ᑕᐃᒃ ᐊᒻᒪ ᔮᓯᒪᓐ ᕝᕙᐅ, ᐊᕙᑎᓕᕆᔩᒃᑯᓗ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐅᖃᐅᔾᔪᐃᔩᒪᕆᖓᓂ, ᑭᐅᕆᓐ ᓯᒥᑦ. ᐱᒋᐊᕈᑎᖃᓚᐅᖅᑐᑦ ᐅᒃᑯᐃᖅᓯᓂᕐᒧᑦ ᐅᖃᓚᒃᑲᓂᑦ ᑭᐅᕆᓐ ᓯᒥᑦ ᖃᓄᖅ ᐱᔾᔪᑎᖃᕐᓂᖓᓄᑦ ᑲᑎᒪᓂᐅᔪᖅ ᓇᓗᓇᐃᕈᒪᓂᕐᓗ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᑦ ᐱᕙᓕᐅᖅᓯᒪᓚᐅᓗᐊᕐᒪᖔᑦ ᑭᓪᓚᖅᑐᐃᔩᓂᒃ ᑲᑎᒪᑎᑦᑎᔭᖅᑐᕐᓗᑎᒃ ᒪᓐᑐᕆᐋᓗᑦ. ᐅᓂᒃᑲᐅᓯᖃᓚᐅᖅᐳᖅ ᖃᓄᐃᑦᑑᕐᓂᖏᓐᓂᒃ ᑲᖏᖅᓱᐊᓘᑉ ᐃᓗᐊᑕ ᓂᕆᐊᓂᑦ ᓇᓄᙱᑎᖏᓐᓂᑦ, ᒪᐅᑲᒃ ᑕᐃᒃ ᐅᓂᒃᑳᖅᑯᓂᑦ, ᐅᓂᒃᑲᐅᓯᖅᑯᓂᓗ ᖃᓄᖅ ᐊᑦᑕᙱᓇᕋᔭᕐᓂᖓᓂᑦ, ᔮᓯᒪᒡ ᕝᕙᐅ. ᐃᓚᐅᔪᑦ ᐊᐱᖅᓱᖃᑦᑕᕐᑯᔭᐅᓚᐅᖅᐳᑦ, ᐃᓱᒫᓘᑎᒥᓂᒃ ᓴᖅᑭᑎᕐᑯᔭᐅᕙᒃᑯᑎᓪᓗ,

ᐅᖃᐅᔾᔪᐃᕐᑯᔭᐅᕚᕝᓂᑎᒡᓗᓐᓃᑦ ᐅᖄᓛᒥᐊᖅᑐᖅᓯᒪᔪᖃᖅᑎᓪᓗᒍ ᑭᓯᐊᓂᑦᑕᐅᖅ ᑐᓴᖅᑎᑕᐅᓯᒪᓚᐅᖅᑐᑦ ᓄᖅᑲᖔᓚᐅᑲᖃᑦᑕᕋᔭᙱᓐᓂᓪᓂᑦ ᐊᐱᖅᑯᑎᒃᓴᓄᑦ. ᐅᓂᒃᑳᖅᑐᖃᓪᓚᓚᐅᖅᑎᓪᓗᒍ, ᐊᐱᖅᑯᑎᒃᓴᐃᑦ/ᐅᖃᖃᑎᒌᖕᓂᒃ ᑲᔪᓰᓐᓇᓚᐅᖅᐳᑦ ᑭᓯᐊᓂ ᐊᐱᖅᑯᑎᒃᓴᒃᑲᓂᕐᓂᒃ ᐊᐱᕆᔪᖃᑦᑕᕈᓐᓂᕐᓂᖔᓄᑦ. ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᐊᐱᕆᓚᐅᖅᑐᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᓐᓂᑦ ᐅᖃᖃᑎᒌᕐᑯᓪᓗᒋᑦ ᐊᐅᓚᑦᑎᔾᔪᑏᑦᓴᓂᑦ ᓯᕗᓂᒃᓴᒥᓪᓗ ᖃᓄᐃᔾᔪᑕᐅᓇᔭᖅᑐᓂᒃ ᑐᓴᐅᒪᑎᑦᑎᕐᑯᓪᓗᒥᓗ ᑕᒪᒃᑯᓂᖓ ᓄᓇᓕᖕᓂ ᐊᓯᕙᖅᑎᓂᒃ ᑐᓴᖅᑎᑕᐅᒃᑲᓂᕈᒪᓪᓗᑎᒃ.

3.0 ᓇᐃᓈᖅᓯᒪᔪᖅ ᐅᓂᒃᑳᖅ ᑲᑎᒪᓂᕐᒧᑦ

ᑎᑭᑕᐅᓇᓱᐊᖅᑐᑦ ᑲᑎᒪᓂᓕᒫᓂᑦ ᐅᖃᐅᓯᐅᑦᑎᐊᖃᑦᑕᓚᐅᖅᐳᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᓐᓄᑦ ᓄᓇᓕᖕᒥᐅᓄᓪᓗ ᓯᕗᓪᓕᓂ ᑲᑎᒪᓚᐅᖅᑳᕋᑎᒃ ᐱᒋᐊᖕᓂᖏᓐᓂᓪᓗ ᑲᑎᒪᓂᐅᑉ.

ᐅᓪᓗᖓ: ᕕᕗᐊᕆ 11, 2020

ᑭᒡᒐᖅᑐᖅᑎᑦ:

- ᓄᓇᕗᑦ ᒐᕙᒪᖓ–ᐊᕙᑎᓕᕆᔩᒃᑯᑦ, ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎ II, ᒫᑯᓯ ᑕᐃᒃ
- ᓄᓇᕗᑦ ᒐᕙᒪᖓ–ᐊᕙᑎᓕᕆᔩᒃᑯᑦ, ᓇᓄᕐᓂᒃ ᖃᐅᔨᓴᖅᑎ I, ᔫᓯᒥᓐ ᐅᐊᐃ,
- ᓄᓇᕗᑦ ᒐᕙᒪᖓ–ᐊᕙᑎᓕᕆᔩᒃᑯᑦ, ᐆᒪᔪᓕᕆᔩᒻᒪᕆᒃ, ᑲᕆᓐ ᓯᒥᑦ
- ᓄᓇᕗᑦ ᒐᕙᒪᖓ–ᐊᕙᑎᓕᕆᔩᒃᑯᑦ, ᐊᐅᓚᔾᔪᑎᓄᑦ ᐊᐅᓚᑦᑎᔩᒻᒪᕆᒃ, ᔭᐃᓴᓐ ᐊᓕᖅᑲᖅᑐᖅ
- ᓄᓇᕗᑦ ᒐᕙᒪᖓ–ᐊᕙᑎᓕᕆᔩᒃᑯᑦ, ᐆᒪᔪᕐᓂᐊᖅᑎ II, ᑖᓂᐊᓕ ᖃᕝᕕᒃ
- ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᑎᒥᖓᑦ, ᐆᒪᔪᓕᕆᔩᒃᑯᓐᓄᑦ ᑐᑭᒧᐊᒃᑎᑦᑎᔩ, ᐸᓪ ᐃᕐᖓᐅᑦ
- ᓄᓇᕗᒻᒥ ᐅᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ, ᐆᒪᔪᓂᒃ ᖃᐅᔨᓴᖅᑎ, ᑲᐃᐅᓪ ᕆᑦᓯ
- ᕿᑭᖅᑖᓗᖕᒥ ᐆᒪᔪᓕᕆᔩᑦ, ᐃᒃᓯᕙᐅᑕᖅ, ᔭᐃᒥᓯ ᕿᓪᓚᖅ
- ᑐᑭᓕᐅᕆᔨ, ᑕᐃᓇ ᑲᕕᒃ
- ᓴᓂᑭᓗᐊᖅ ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ
  - ᐃᓚᐃ ᑲᕕᒃ, ᐃᒃᓯᕙᐅᑕᖅ
  - ᓘᑲᓯ ᐊᕐᕋᒃᑕᐃᓇᖅ, ᐊᐅᓚᑦᓯᔨ
  - ᐳᐊᓯ ᐃᑉᐸᒃ, ᑲᑎᒪᔨ
  - ᔩ ᐊᕐᕋᖑᑕᐃᓇᖅ, ᑲᑎᒪᔨ
  - ᐋᓕᒃ ᐃᑉᐸᒃ, ᑲᑎᒪᔨ
  - ᔫᓂ ᐅᖃᐃᑦᑐᖅ, ᑲᑎᒪᔨ

ᐅᖃᐅᓯᒃᓴᐃᑦ ᐊᐱᖅᑯᑎᒃᓴᐃᓪᓗ:

- ᐊᑯᓂᐅᔪᖅ ᒪᓕᑦᑎᐊᖃᑦᑕᕐᓂᖓ ᐊᓯᕙᕐᓂᕐᒧᑦ ᐅᓂᒃᑳᓄᑦ ᐊᓯᕙᕐᓂᕐᒧᓪᓗ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᐅᖃᐅᓯᐅᑦᑎᐊᓚᐅᖅᑐᖅ ᐊᓯᕙᖅᑕᐅᓯᒪᔪᓪᓗ ᖃᐅᔨᓴᒐᒃᓴᖏᑦ ᓇᒃᓯᐅᔾᔭᐅᕙᐅᑦ ᐊᕙᑎᓕᕆᔩᒃᑯᑦ ᓇᓄᓕᕆᕝᕙᒐᓄᑦ ᓇᓗᓇᐃᑦᑎᐊᖅᑕᐅᓚᐅᖅᓱᓂᑦ.
- ᐊᖑᓇᓱᒃᑐᓕᕆᔩᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ ᓇᓗᓇᐃᓚᐅᖅᑐᑦ ᓈᒻᒪᒃᓴᙱᓐᓂᖏᓐᓂᑦ ᐅᓂᒃᑳᕝᕕᖃᑦᑎᐊᙱᓐᓂᖓᓂᑦ ᐊᓯᕙᕐᓂᕐᒧᑦ ᑯᐸᐃᖏᑦ ᐅᓂᒃᑲᐅᓯᐅᔪᓪᓗ ᐊᓯᕙᖅᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᓂᖅᓴᐅᓇᓱᒋᓪᓗᓂᐅᒃ 12.8 ᓇᓐᓄᓂᒃ.

- ᐃᓱᒫᓗᑕᐅᔪᖃᓚᐅᖅᐳᖅ ᓇᓚᐅᑦᑖᖅᑕᐅᑦᑎᐊᖅᓯᒪᙱᑦᑐᖅ ᓇᓄᒃᑕᐅᕙᒃᑐᑦ ᑯᐸᐃᖕᒥᑦ ᓇᓄᒃᑕᐅᕙᒃᑐᓂᑦ ᓄᓇᕗᒻᒥ ᑲᔪᓯᓂᖃᑦᑎᐊᖅᑰᔨᔪᓐᓇᙱᓐᓂᖕᒐᓂᑦ, ᑐᙵᕗᓗᐊᖅᐳᓂᑦ 100% ᐅᓂᒃᑲᐅᓯᐅᖃᑦᑕᕐᓂᕐᒥᑦ, ᐊᒃᓱᕈᕐᓇᖅᑐᒃᑰᖅᑎᑕᐅᓕᕐᓗᑎᒃ ᓴᓂᑭᓗᐊᕐᒥᐅᑦ ᐅᓄᕈᓐᓃᖅᑎᕆᐊᕐᑯᔭᐅᓗᑎᒃ ᓇᓄᖃᑦᑕᖅᑕᙱᑦ.
- ᐊᑕᐅᓯᖅ ᐃᓐᓇᖅ ᑲᑎᒪᔩᑦ ᐅᖃᓚᐅᖅᐳᖅ ᐅᑭᐅᖑᔪᖅ ᓇᓄᕚᓱᙵᒥᑦ, ᓯᑯᐃᓪᓗ ᖃᓄᐃᑦᑑᓂᙱᑦ ᐊᑦᑕᕐᓇᙵᓂᖅᓴᐅᓯᒪᕗᑦ ᐊᕐᕇᒍᓯᖅᑐᑦ ᑕᑯᓪᓗᒋᑦ ᐃᓚᙱᓪᓗ ᓯᑯᓚᐅᙱᓪᔪᑎᒃ ᐊᐱᓯᒪᓂᙱᓐᓄᑦ. ᑕᒪᒃᑯᐊ ᓯᑰᑉ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᓂᙱᑦ ᐃᓱᒫᓗᑕᐅᕗᑦ ᓯᕗᓂᒃᓴᒥᑦ ᓇᓄᕚᓱᖃᑦᑕᕐᓂᕐᒧᑦ ᐃᓂᑭᔭᙵᓂ.
- ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᐊᐅᓚᑦᑎᔨᙵ ᓇᒧᓇᐃᓚᐅᖅᑐᖅ ᐃᓱᒫᓘᑎᒥᒃ ᖃᓄᖅ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᓂᕈᐊᕋᔭᕐᒪᙵᑦ ᐊᑐᓚᒃᓴᙵᓂᑦ, ᐊᑦᑕᕐᓇᑐᐃᓐᓇᕆᐊᓕᙵ ᐅᓂᒃᑳᒥᑦ, ᓇᓕᐊ ᓈᒻᒪᖀᙳᓇᔭᕐᒪᙵᑦ. ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᑭᒡᒐᖅᑐᖅᑎᖏᑦ ᓇᒧᓇᐃᔭᐃᑦᑎᐊᓚᐅᖅᑐᑦ ᑐᓴᐅᒪᔾᔪᑎᓂᒃ ᐱᕙᓪᓕᐊᑎᑦᑎᔾᔪᑕᐅᓚᐅᖅᑐᓂᒃ ᐊᕙᑎᒧᑦ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᓂᑦ, ᐱᖃᓯᐅᑎᓪᓗᓂᑦ ᖃᓄᑯᓘᔭᖅ ᖃᐅᔨᒪᔭᐅᔪᑐᖃᕐᓂᑦ ᐊᒻᒪ ᖃᐅᔨᓴᖅᑎᓂᒃ ᖃᐅᔨᓴᖅᑕᐅᓯᒪᔪᓂᒃ ᑐᙵᕕᖃᖅᐳᑎᒃ ᐊᑐᖅᑕᐅᖃᑦᑕᕐᓂᑯᓂᑦ. ᐃᓱᒪᖅᓱᓚᐅᖅᐳᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᓄᓇᓕᖕᓂᕐᒥᐅᓪᓗ ᓇᓪᓕᐊᖕᓂ ᐊᑐᕈᒪᙳᒪᙳᑦ ᓯᕗᓂᒃᓴᒥᑦ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ, ᓱᖏᐅᖔᓂᖅᓴᐅᖕᒪᑕ ᐊᕙᑎᒥᖕᓂ ᖃᓄᕐᓗ ᓇᓄᐃᑦ ᓱᖏᐅᓯᓴᕋᔭᕐᒪᙳᑦ ᐊᕙᑎᒥᖕᓂᑦ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᔪᒥᑦ.
- ᐊᖑᓇᓱᑦᓱᓕᕆᔨᒃᑯᑦ ᐊᐅᓚᑦᑎᔨᙵ ᓇᒧᓇᐃᓚᐅᖅᑐᖅ ᐃᓄᐃᑦ ᓇᓄᐃᓪᓗ ᓱᖏᐅᑎᔪᓐᓇᑦᑎᐊᕐᓂᖏᓐᓂᒃ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᔪᓄᑦ ᓂᕈᐊᒐᒃᓴᖅ 1 ᐊᒻᒪ 2 ᐊᑲᐅᖏᙳᓇᔭᖅᑐᑦ. ᐃᓱᒫᓗᑕᐅᔪᖃᓚᐅᖅᐳᖅ ᖃᓄᖅ ᐊᒃᑐᐃᓂᐊᕐᓂᖏᓐᓂᒃ ᓇᓄᐃᑦ ᐊᕙᑎᒥᑦ ᐊᒥᓲᓗᐊᕐᓂᕈᑎᒃ (ᐆᒃᑑᑦ ᓱᕋᐃᓂᖅ ᒪᓂᖃᕐᕕᖕᓂᑦ), ᐃᓱᒫᓘᑕᐅᓚᐅᕆᕗᖅ ᖃᓄᖅ ᐊᒃᑐᐃᓂᐊᕐᓂᖏᓐᓂᒃ ᐊᕙᑎ ᐊᓯᔾᔨᖅᑎᓪᓗᒍᑦ ᓂᕐᔪᑎᓄᑦ ᓂᖅᑭᑦᔭᐅᕙᒃᑐᓄᑦ ᓇᓄᓂ. ᑕᑯᔪᒪᔪᖃᙱᓚᖅ ᑳᒃᑐᑦ ᓇᓄᕐᓂᑦ ᑕᑯᖍᕈᒪᓇᔭᖅᐳᑦ ᐃᓂᒃᓴᑦᑎᐊᕙᖕᒥᑦ ᓇᓄᕐᓄᑦ. ᓇᓗᓇᐃᕈᒪᒋᕗᑦ ᐅᓄᕐᓂᖅᓴᐅᒍᑎᒃ ᐊᒃᑑᑎᓂᕐᓗᓕᔭᙱᓐᓂᖓᓂ ᑎᖕᒥᐊᕐᓄᑦ. ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᑎᒥᖓᓄᑦ ᑭᒡᒐᖅᑐᖅᑎ, ᐸᓖ ᐃᕐᖓᐅᑦ, ᓇᓗᓇᐃᓚᐅᖅᐳᖅ ᑐᙵᕕᒃᑯᑦ ᐃᑲᔪᖅᓯᕋᔭᕐᓂᖏᓐᓂᒃ ᐊᖑᓇᓱᒃᑐᑎᓐᓂᒃᑯᓐᓂᑦ ᓇᓕᐊᖕᓂᑐᐃᓐᓇᖅ ᓂᕈᐊᕋᓗᐊᕈᑎᒃ ᓈᒻᒥᒌᕐᒥᖕᓂᑦ.
- ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔩᖏᑦ ᐅᖃᖃᑎᖃᖅᑳᕈᒪᕗᑦ ᓄᓇᓕᖕᓂᕐᒥᐅᑦ ᐊᓯᕙᖅᑎᓂᒃ ᓇᓪᓕᐊᖕᓂ ᓂᕈᐊᓚᐅᙱᓐᓂᖕᓂᒃ ᐊᕙᑎᓕᕆᓂᕐᒧᑦ ᐊᑐᕋᔭᖅᑕᖓᓂᑦ ᐊᐅᓚᑦᑎᔾᔨᓯᕐᒥᓪᓗ ᐊᑐᕈᒪᔭᒥᖕᓂᑦ.
- ᐃᓐᓇᕐᒥᑦ ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᓐᓂᑦ ᓇᓗᓇᐃᖅᑐᖃᓚᐅᖅᑐᖅ ᓯᕗᓂᒃᓴᒥᑦ ᐊᑐᖅᑕᐅᖃᑦᑕᕋᔭᖅᑐᓂᒃ ᓯᕗᓪᓕᖕᒋᑦᑕ ᓇᓚᐅᑦᑖᖃᑦᑕᕐᓂᑯᖕᒋᓐᓂᒃ, ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᐅᓂᒃᑳᓕᐅᖅᑐᖃᖃᑦᑕᙱᑎᓪᓗᒍᑦ, ᐊᑐᓕᖅᐸᓪᓕᐊᑐᐃᓐᓇᖅᐳᖅ ᑭᖑᕚᕇᓪᓗ ᐅᓂᒃᑳᖃᕈᓐᓇᖅᓯᓪᓗᑎᒃ ᑲᑎᒪᔾᔪᑎᖃᕈᓐᓇᖅᓯᓪᓗᑎᓪᓗ ᑕᒪᒃᑯᓂᖓ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᔪᓄᑦ.
- ᐊᖑᓇᓱᒃᑐᓕᕆᔨᒃᑯᑦ ᐊᐅᓚᑦᑎᔨᙵ ᓇᒧᓇᐃᓚᐅᖅᑐᖅ ᐊᓯᕙᖅᐴᑦ ᓇᓄᕚᓱᖃᑦᑕᕐᓂᕐᒥᑦ ᓈᒻᒪᒃᓴᕈᓐᓃᕐᓂᖓᓂᑦ ᓯᕗᓂᒃᓴᒧᑦ ᐊᑭᑭᓗᐊᕐᓂᖏᓐᓂᑦ ᓇᓄᕋᐃᑦ. ᓂᕿᓄᑐᐊᖅ ᓇᓄᕚᓱᖃᑦᑕᓕᕈᑎᒃ, ᐊᓯᕙᖅᐴᑦ ᐊᓯᐊᓂᒃ ᐊᓯᕙᖃᑦᑕᓕᑐᐃᓐᓇᕆᐊᓖᑦ. ᑆᓇᐅᔭᑎᒍᑦ ᐊᔪᕐᓇᖅᓯᕙᓪᓕᐊᒐᓗᐊᖅᐳᓂᑦ ᓇᓄᕚᓱᖃᑦᑕᕐᓂᕐᒧᑦ, ᐱᖅᑯᓯᑐᖃᐃᑦ ᐊᔪᙱᑕᐅᔪᓪᓗ ᓇᓄᕚᓱᖃᑦᑕᕐᓂᕐᒥᑦ ᑲᔪᓯᑎᑕᐅᔪᒪᒐᖅ ᑭᖑᕚᑦᑎᓐᓄᑦ. ᑖᓐᓇ ᑐᑭᖃᖅᐳᖅ ᓇᓄᑦ ᐸᐸᑕᐅᖁᓪᓗᒋᑦ ᓯᕗᓂᒃᓴᑦᑎᓐᓂ ᐊᓯᕙᖅᑎᒃᓴᓄᑦ.
- ᐊᕙᑎᓕᕆᔨᒃᑯᑦ ᐊᐅᓚᑦᑎᔨᒻᒪᕆᖕᒋ ᐊᐅᓚᑕᐅᔪᓄᑦ, ᔭᐃᓴᓐ ᐊᓕᖅᑲᖅᑐᖅ, ᓇᓗᓇᐃᓚᐅᖅᑐᖅ ᐊᒥᓱᑦ ᐃᓄᐃᑦ ᐱᖅᑯᓯᑐᖃᕐᒥᑦ ᐊᔪᙱᑕᐅᔪᓂᒡᓗ ᓇᓄᕚᓱᖃᑦᑕᕐᓂᕐᒧᑦ ᑲᔪᓯᖁᔨᔪᑦ ᑭᖑᕚᑦᑎᓐᓄ ᑕᐃᒪᐃᓪᒪ ᐱᓪᒪᕆᐅᕗᖅ ᓇᓄᖃᑦᑕᖅᑐᑦ ᓇᓗᓇᐃᖅᑯᓗᑎᑦ ᐅᓄᖅᓯᒋᐊᕐᑯᔨᙳᒪᙳᑦ

(ᐅᓄᓃᕆᔩᓐᓇᖅᑕᖓᓄᑦ), ᓱᕐᑯᓯᙱᓪᓗᑎᒃ (ᓱᕐᑯᓯᐊᙱᓪᓗᒋᑦ), ᐅᓄᕈᓐᓂᕆᐊᕐᓗᒋᓘᓐᓃᑦ (ᐊᐅᓚᑕᐅᔨᒃᑯᑦ ᐅᓄᕈᓐᓂᕆᐊᕐᓗᒋᑦ).

- ᐅᖃᐅᓯᐅᓚᐅᖅᐳᖅ ᐊᑐᖅᑕᐅᔪᒃᓴᖅ 1–ᒥᑦ ᐅᓗᕆᐊᓇᑐᐃᓐᓇᕆᐊᓕᖕᓄᑦ, ᑲᔪᓯᔾᓇᖅᑐᒃᑯᑦ ᓇᓐᓄᖃᑦᑕᕐᓂᖅ (ᐊᓯᕗᖅᑕᐅᔪᑦ ᑎᑭᑕᐅᔾᓇᖅᑐᑦ ᐅᓄᓃᕆᔩᓐᓇᖅᑕᖓᓄᑦ) ᐅᓄᕈᓐᓂᕆᐊᕈᑕᐅᓇᔾᙱᓚᖅ ᐊᓯᕗᖅᑕᐅᔾᓇᖅᑐᓂᒃ ᓇᓄᕐᓄᑦ. ᒫᓇᐅᔪᖅ ᓇᓐᓄᒃᑕᐅᕚᒃᐳᑦ 50-55 ᑕᒪᒃᑯᓄᖓ ᐊᒻᒪ ᓇᓐᓄᒃᑕᐅᖃᑦᑕᕈᓐᓇᕋᔭᖅᑐᑦ ᐊᑐᖅᑕᐅᒍᓂᑦ 1 63-ᖑᓇᔭᖅᐳᑦ 2:1 ᐊᖑᑦ ᐊᕐᓇᑦ (42 ᓇᓐᓄᑦ 1:1 ᐊᖑᑦ ᐊᕐᓇᑦ).
- ᐅᖃᐅᓯᐅᓚᖅᐳᖅ ᐸᐸᑕᐅᔪᒪᓪᓗᓂᑦ ᓇᓐᓄᒃᑕᐅᔾᓇᖃᑦᑕᖅᑐᑦ ᒫᓇᐅᔪᖅ ᐅᓄᕈᓐᓂᕆᐊᕋᓗᐊᖅᑎᓪᓗᒋᑦ ᐊᓯᕗᖅᑕᐅᔪᒪᕚᖕᓂᖏᑦ; ᐱᔪᒪᓕᖅᐹᓪᓕᑐᐃᓐᓇᕆᐊᓖᓪ ᓯᕗᓂᒃᓴᒥᑦ, ᐱᓗᐊᖅᑐᒥᒃ ᓇᓄᕋᐃᑦ ᐊᑭᑦᑐᕆᐊᕈᑎᒃ.
- ᐊᖑᓇᓱᒃᑐᓕᕆᔾᔪᑦ ᑕᑯᔪᒪᕗᑦ ᐊᓯᕗᖃᑦᑕᕐᓂᕐᒥᑦ ᓈᒻᒪᒋᔭᐅᔪᒥᑦ ᑭᓯᐊᓂ ᑭᒡᓕᖅᖅᑎᑦᑎᓇᔾᙱᓚᑦ ᐱᕕᒃᓴᐅᓇᔭᖅᑐᓂᑦ ᓯᕗᓂᒃᓴᒥᑦ.

4.0 ᓇᐃᓈᖅᓯᒪᓂᖓ

ᐊᖑᓇᓱᒃᑐᓕᕆᔾᔪᑦ ᐃᒃᓯᕙᐅᑕᖓ ᓇᓗᓇᐃᓚᐅᖅᐳᖅ ᐊᕙᑎᓕᕆᔾᔪᑦ ᐅᓂᒃᑲᐅᓯᖃᑦᑎᐊᕐᓂᖓᓂᑦ, ᐱᕙᒌᔭᖅᓯᒪᓂᖅᓴᐅᓕᖅᓱᑎᓪᓗ, ᑐᑭᓯᓇᑦᑎᐊᖅᑐᓂᒃ, ᑲᑎᖃᑎᖃᕐᓗᑎᒃ ᐊᓯᕗᖅᑎᒥᖕᓂᑦ ᐃᓂᑖᑦᑎᐊᕐᓗᑎᓪᓗ ᑲᑎᒪᔭᖅᑐᓚᐅᙱᓐᓂᖕᒋᓐᓂᒃ ᒪᓐᑐᕆᐋᓪᒧᑦ. ᐃᓱᒫᓘᑕᐅᔫᖑᔪᖅ ᐊᓯᕗᖅᑎᓂᒃ ᓄᓇᓕᖓᓂᑦ ᐊᑭᑭᓗᐊᕐᓂᖏᓐᓂᑦ ᓇᓄᕋᐃᑦ, ᓇᓐᓄᒐᓱᖕᓂᕐᒥᑦ ᑮᓇᐅᔭᑎᒍᑦ ᐊᔪᕐᓇᕈᑕᐅᓪᓗᓂᑦ ᐃᓄᖕᓄᑦ ᒫᓇᓗ ᐊᓯᖏᓐᓂᑦ ᐊᓯᕗᖃᑦᑕᕐᓂᕐᒧᑦ ᓴᖑᑐᐃᓐᓇᕆᐊᖃᓕᖅᓱᑎᒃ. ᓇᓐᓄᒐᓱᖃᑦᑕᓗᐊᙱᓐᓂᖅ ᐊᑲᐅᙱᓕᐅᕈᑎᖃᖅᐳᖅ ᓄᓇᓕᐅᑉ ᐸᐸᑦᑎᔪᒪᓂᕆᔭᖓᓂᑦ ᐱᖅᑯᓯᑐᖃᕐᒥᑦ ᐊᔾᙱᑕᐅᔪᓂᓪᓗ ᑭᖑᕚᖓᓄᑦ ᓇᓗᓇᐃᕆᓂᕐᒧᓪᓗ ᐃᓚᒌᑦ ᓂᕿᓪᓚᑦᑖᕐᓂᑦ ᓂᕿᖃᐃᓐᓇᕈᓐᓇᕐᓂᕐᒧᑦ. ᐊᖑᓇᓱᒃᑐᓕᕆᔾᔪᑦ ᐃᒃᐱᒍᓱᓚᐅᖅᑐᑦ ᓯᕗᓪᓕᖅᐹᖅ ᐅᓂᒃᑲᐅᓯᐅᔪᖅ ᐊᑦᑕᕐᓇᑐᐃᓐᓇᕆᐊᓕᖕᓄᑦ, ᑐᙵᕙᖃᕐᓂᖅᓴᐅᓪᓗᓂᑦ ᖃᐅᔨᒪᔭᐅᔪᑐᖃᕐᓂᑦ, ᑭᒡᓕᖅᑐᐃᓂᖅᓴᐅᑐᐃᓐᓇᕆᐊᖃᕐᓂᖓᓂᑦ ᓯᕗᓂᒃᓴᒥᑦ ᖃᓄᐃᐸᓪᓕᐊᓂᐊᖅᑐᓂᒃ ᐊᕙᑎᖓᓂᑦ ᓇᓄᕐᑯᑎᖏᓐᓂᓪᓗ. ᐊᖏᖃᑎᒌᖕᓂᖅᑕᖃᓚᐅᖅᑐᖅ ᓇᓄᐃᑦ ᓱᖏᐅᑎᔩᓇᕐᓂᖏᓐᓂᒃ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᔪᓄᑦ ᐊᕙᑎᒥᖕᓂᑦ, ᑭᓯᐊᓂ ᐊᐱᖅᑯᑕᐅᕙᐅᓪᓕᐊᑐᐃᓐᓇᓚᐅᖅᑐᖅ ᐅᓄᕈᓐᓂᖅᑎᒋᐊᕐᓗᒋᑦ ᓇᓄᐃᑦ ᖃᓄᐃᙱᑦᑎᐊᕐᓂᖅᓴᐅᕐᑯᓪᓗᒋᑦ. ᐃᓂᒋᔭᖓ ᐅᓄᕐᓂᖅᓴᓂᒃ ᓇᓄᖃᕈᓐᓇᙱᑐᐃᓐᓇᕆᐊᖃᖅᐳᖅ ᐊᕙᑎ ᐊᓯᔾᔨᖅᐸᓪᓕᐊᑎᓪᓗᒍᑦ. ᐊᕙᑎᓕᕆᔾᔪᑦ ᐃᖅᑲᐃᓯᑎᒋᐊᖅᑕᐅᓚᐅᖅᑐᑦ ᖃᐅᔾᔨᒋᐊᕈᓐᓇᕐᓂᖕᒥᒃ ᐊᕙᑎᓕᕆᔾᔪᑦ ᑭᒡᓕᖅᑐᐃᔾᖏᓐᓄᑦ ᑐᑭᓯᒋᐊᒃᑲᓐᓂᕈᒪᒍᑎᒃ ᖃᓄᑐᐃᓐᓇᖅ ᐅᓂᒃᑲᐅᓯᐅᔪᒥᑦ, ᑲᑎᒪᔭᖅᑐᓚᐅᙱᓐᓂᖕᒋᓐᓂᑦ ᒪᓐᑐᕆᐋᓪᒧᑦ.

ᖃᐅᔨᓵᒃᑲᓂᕐᓂᖅ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᕐᓂᒃ ᓇᓄᖃᐅᕐᑐᒥ

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ᑎᑎᕋᕐᑕᖏᑦ ᐅᑯᐊ: ᒫᑲᔅ ᑎᒃ (ᓄᓇᕗᑦᒥ ᐱᓕᕆᔨᕋᖓᑦ ᐊᕙᑎᓕᕆᔩᑦ); ᒍᕆᒡᒍᕐ ᒋᐅᓪᔫᕐᑦ (ᒪᑭᕙᒃ ᑯᐊᐳᕆᓴᓐ); ᒣᒻ ᐊᐃᕗᓴᓐ (ᐊᕙᑎᓕᕆᔩᑦ ᐊᒻᒪᓗ ᓯᓚᐅᐸ ᐊᓯᔾᔨᕐᓂᖓᓂᒃ ᑲᒪᔩᑦ ᑲᓇᑕᒥ); ᑏᕙᑦ ᓖ (ᓄᓇᕗᑦ ᑐᙵᕕᒃ ᑎᒥᖓᑦ); ᓂᑯᓚᔅ J. ᓚᓐ (ᐊᕙᑎᓕᕆᔩᑦ ᐊᒻᒪᓗ ᓯᓚᐅᐸ ᐊᓯᔾᔨᕐᓂᖓᓂᒃ ᑲᒪᔩᑦ ᑲᓇᑕᒥ); ᔩᓯᕝ M. ᓄᐊᕐᑐᕋᑉ (ᐊᓐᑎᐅᕆᐅᒥ ᒥᓂᔅᑕᖏᑦ ᐱᑕᖅᑲᑲᐅᑎᒋᔪᓂᒃ ᐱᔭᕐᓴᓂᒃ ᐊᒻᒪᓗ ᓇᕚᕐᑐᓕᕆᔩᑦ); ᐋᓚᓐ ᐱᓐ (ᐃᖅᑮᓪᑦ ᕚᕙᒪᖏᑦ); ᒪᕇ-ᒃᔫᑦ ᕆᑦᓯᕐ (ᑯᐱᐊᒃᒥ ᒥᓂᔅᑕᖏᑦ ᐱᕈᕐᑐᓕᕆᔩᑦ, ᐆᒪᔪᓕᕆᔩᑦ ᐊᒻᒪᓗ ᒥᕐᖑᐃᓯᕐᕕᓕᕆᔩᑦ); ᒋᓚᐆᒻ ᓱᐊᕐ (ᑯᐱᐊᒃᒥ ᒥᓂᔅᑕᖏᑦ ᐱᕈᕐᑐᓕᕆᔩᑦ, ᐆᒪᔪᓕᕆᔩᑦ ᐊᒻᒪᓗ ᒥᕐᖑᐃᓯᕐᕕᓕᕆᔩᑦ)

ᑎᑎᕋᕐᔪᐊᕆᐊᕐᑕᖏᑦ ᐆᒪ: ᓵᒻ ᐊᐃᕗᖅᓴᓐ (ᐊᕙᑎᓕᕆᔩᑦ ᐊᒻᒪᓗ ᓯᓚᐅᐸ ᐊᓯᔾᔨᕐᓂᖓᓂᒃ ᑲᒪᔩᑦ ᑲᓇᑕᒥ)

ᐅᑯᐊ ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ ᐱᐅᓯᖃᕋᓯᐊᕐᑐᑦ ᐱᑕᖃᒃᑲᐃᓂᕐᒥᒃ ᖃᐅᔨᒪᔪᐊᖏᑦᑐᓄᑦ ᑐᓴᕈᒪᔪᑦ ᐃᓯᒪᒋᓐᓂᒃ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᕐᓂᒃ ᓇᓄᖃᐅᕐᑐᒥ ᑲᒪᔾᔪᑎᓂᒃ ᐱᓕᕆᐊᓖᑦ ᖁᒥᒡᕈᑲᓐᓂᕐᑐᑦ ᐅᓂᒃᑳᓂᒃ. ᓇᑐᓇᐃᔭᕐᓯᒪᓂᖅᓴᐃᑦ, ᐃᓚᐅᑦᑐᑎᒃ ᐅᖃᕐᑕᐅᓂᑯᖅ ᐊᒻᒪᓗ ᑲᒪᒍᓯᐅᔪᓄᑦ ᓇᑐᓇᐃᔭᐅᑏᑦ ᑎᑎᕋᕐᑕᐅᒪᕗᑦ ᓈᓂᕐᓂ ᐅᓂᒃᑳᓂ.

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ

ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ (SH) ᓇᓄᐃᑦ ᓇᓄᖅᑲᐅᕐᑐᒥ ᐃᓕᖅᑲᒪ ᐊᑕᖏᒐᓚᑦᑐᒍ ᑲᓇᓐᓇᖓᓂ ᐊᒻᒪᓗ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᐊᒻᒪᓗ ᔭᐃᓴ ᐸᐃ, ᐊᒻᒪᓗᑦᑕᐅᖅ ᐊᖏᔫᑦ ᓯᔾᔭᖏᓐᓂ ᐊᓐᑎᐅᕆᐅ ᐊᒻᒪᓗ ᑯᐱᐊᒃ ᐊᒻᒪᓗ ᕿᑭᖅᑕᓂ ᒫᓃᑦᑐᓂ ᐃᓗᐊᓂ ᑕᓯᐅᔭᕐᔪᐊᑦ. ᐊᐅᓚᕐᓯᓂᕐᒧᑦ ᓴᙱᓂᓖᑦ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᓂ ᓇᓄᖅᑲᐅᕐᑐᒥ ᐊᒥᖅᑳᕐᑐᑦ ᐃᑉᐱᒋᔭᖏᓐᓂᒃ ᖓᕙᒪᓐᑐᖅᑲᒃᑯᑦ, ᖃᓪᓗᓈᓂ ᐊᒻᒪᓗ ᐅᑭᐅᑕᕐᑐᒥ ᖓᕙᒪᖏᑦ, ᐆᒪᔪᕐᓂᒃ ᐊᐅᓚᕐᓯᓂᕐᒧᑦ ᑲᑎᒪᔾᑦ ᐊᔾᔨᓚᖏᑦ ᑎᒥᐅᔫᑦ, ᐊᒻᒪᓗ ᓄᓇᑕᕐᓯᒪᔫᑦ ᑎᒥᕐᑯᑎᖏᑦ ᑭᒡᒐᖏᑦ ᓄᓇᑲᖅᑳᕐᓂᑯᑦ ᐊᔪᙱᒍᑎᓂᒃ ᑎᒍᒥᐊᕐᑏᑦ. ᐊᕕᑦᑐᕐᓯᒪᔪᓂ ᐊᒻᒪᓗ ᓄᓇᓕᓐᓂ ᓄᓇᖅᑳᕐᑳᕐᓂᑯᑦ ᑎᒥᖏᑦ ᐊᒻᒪᓗ ᑲᑐᔾᔨᖅᑲᑎᑦᓯᑦ ᑲᒪᒥᔪᑦ ᐱᒻᒪᕆᐅᔪᒥᒃ ᑲᒪᓯᔭᓂᒃ ᑎᒥᐅᓪᓗᑎᒃ ᐱᑕᖅᑲᒃᑲᐃᔪᑦ ᑐᓴᕝᕙᖅᑫᐊᓯᕐᓂᕐᓂᒃ, ᐋᕿᑦᓯᐃᓂᕐᒥᒃ ᐊᐅᓚᕐᓯᓂᕐᒧᑦ ᐊᑐᓕᕐᑯᔭᓂᒃ, ᐊᒻᒪᓗ ᐃᑲᔪᕐᑐᑦ ᑐᓂᐅᖅᑲᐃᓂᕐᒧᑦ ᐊᒻᒪᓗ ᒪᓕᒃᑕᐅᒃᑲᐃᓂᕐᒧᑦ ᐊᖑᓇᓯᒐᑦᓴᑦ ᑭᓪᓕᖏᓐᓂᒃ.

<u>ᒫᓐᓇ ᖃᓄᐃᓕᕐᓂᖏᑦ ᐊᒻᒪᓗ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ</u>

ᒫᓐᓇ ᒥᒃᓴᐅᓴᒍᑏᑦ ᖃᓄᐃᓪᓕᐊᕐᓂᖏᓐᓂᒃ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᕐᑐᒥ ᐃᒪᐃᑦᑐᑦ 780 ᓇᓄᐃᑦ (95% ᓇᓗᙱᒍᑦ: 590-1029). ᑲᓇᑕᒥ ᓇᓄᕐᓂᒃ ᑲᒪᔾᔪᑎᓕᕆᔾᑦ ᑲᑎᒪᔾᕋᓛᑦ (PBTC) 2019 ᖃᐅᔨᓴᕈᑎᖏᑦ ᓇᓄᖅᑲᐅᕐᑐᓂᒃ ᐃᒪᐃᑦᑑᓚᐅᕐᑐᑦ:

ᖃᓄᐃᓐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᓯᔾᔨᑕᕐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕈᑏᑦ	ᓇᐃᓈᕐᑐᑦ ᑐᑭᖏᑦ	ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᖃᐅᔾᔭᑦ	ᑐᑭᒋᔭᐅᑎᑕᐅᓗᐊᕐᑐᑦ
ᖃᐅᔾᔮᒪᓇᕐᑐᒥᒃ ᐊᓯᔾᔨᑕᕐᓂᖏᑦ	ᐊᓯᔾᔮᕐᑐᑦ ᖃᑦᓯᐅᓂᖏᑦ ᑕᐃᒪᙵᑦ ᐊᑎᓕᕐᑯᕕᐅᒻᒪᑕ ᐅᑯᐊ *ᐊᖏᖅᑲᑎᒌᒍᑏᑦ ᐱᓗᐊᑦᑕᐃᓕᓂᕐᒧᑦ ᓇᓄᕐᓂᒃ* (1973)	ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐸᓪᓚᐃᔫᑦ	ᐊᔾᔨᐅᕈᑏᑦ ᒫᓇᕈᓗᒃ ᒥᒃᓴᐅᓴᒍᑎᓄᑦ ᖃᑦᓯᐅᓂᖏᓐᓄᑦ ᑐᓴᕋᑦᓴᑦ ᓄᐊᑕᑦ ᒫᓂ 1980ᑦ ᐊᒻᒪᓗ 1990ᑦ.
ᓄᓇᖅᑳᕐᓂᑯᑦ ᖃᐅᔾᔮᒪᓂᖏᑦ (IK)	ᖃᐅᔾᔮᒪᓂᖏᑦ ᐱᔭᐅᔫᑦ ᐅᕙᙵᑦ ᐃᓕᖅᑯᓯᒃᑯᑦ ᐱᐅᓯᖏᑦ, ᐃᓅᓕᕐᑐᑎᒃ ᖃᐅᔾᔨᒪᔭᖏᑦ ᐊᒻᒨᑦ ᐱᐅᑐᖅᑲᖏᑦ ᓄᓇᓖᑦ ᐊᒻᒪᓗ ᓄᓇᖅᑳᕐᓂᕐᑯᑦ	ᓱᓐᕋᕐᓯᒪᖏᑦᑐᑦ ᔭᐃᓴ ᐸᐃᒥ; ᐊᒥᓱᕈᕐᐸᓪᓕᕙᓪᓚᐃᔫᑦ ᑲᓇᓐᓇᖓᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ	ᐊᐱᕐᓱᕈᑏᑦ ᐊᒻᒪᓗ ᑐᓴᕝᕙᖅᑫᓱᐊᕐᓃᑦ ᓄᓇᖅᑳᕐᓂᑯᓂᒃ ᓇᓗᓇᐃᔭᐃᔫᑦ ᐊᓯᔾᔨᕐᑐᓂᒃ ᐊᑯᓂᐅᔪᒥᒃ ᖃᑦᓯᐅᓂᖏᓐᓂᒃ ᓇᓄᐃᑦ ᑕᑯᔭᑦ, ᓇᓄᐃᑦ ᐃᓕᖅᑯᓯᖏᑦ, ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᐱᑕᖅᑲᕐᑐᑦ
ᒫᓇᕈᓗᒃ ᐊᓯᔾᔨᑕᕐᓂᖏᑦ	ᐊᓯᔾᔮᕐᑐᑦ ᐊᒥᓲᓂᖏᑦ ᑖᒪᓂ ᐊᓂᒍᕐᑐᓂ 15 ᐊᕐᕌᒍᓂ	ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐸᓪᓚᐃᔫᑦ	ᐊᔾᔨᐅᕈᑏᑦ ᓄᑖᙳᓂᕐᐹᓂᒃ ᒥᒃᓴᐅᓴᒍᑎᓂᒃ ᖃᑦᓯᐅᓂᖏᓐᓄᑦ ᐅᑯᓇᓂ ᓯᕗᓪᓖᑦ ᒥᒃᓴᐅᓴᒍᑏᑦ ᓄᐊᑕᑦ ᒫᓂ 2011/2012, ᐊᒻᒪᓗᑦᑕᐅᖅ ᑐᓴᕋᑦᓴᑦ ᐱᓪᓗᒋᑦ ᐱᐅᙱᓕᕙᓪᓕᕐᓂᖏᑦ ᓇᓄᐃᑦ ᑎᒥᖏᑕ ᐊᒻᒪᓗ ᐃᓅᒍᓐᓇᕐᓂᖏᑕ ᐊᑕᔫᑦ ᐊᑯᓂᐅᓕᕐᐸᓪᓕᐊᖓᓂᖓᓄᑦ ᓯᑯᖃᙱᑦᑑᑉ
ᓯᕗᓂᑦᑎᓐᓂ ᐊᓯᔾᔨᑕᕐᓂᖏᑦ	ᐃᓱᒪᒋᔭᑦ ᑐᕌᑦᑕᐅᔫᑦ ᖃᑦᓯᐅᓂᖏᓐᓄᑦ ᑕ ᒪᓂ ᐊᕐᕆᕐᑐᓂ 10 ᐊᕐᕌᒍᓂ	ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐸᓪᓚᐃᔫᑦ	ᑎᑎᕋᑦᑕᐅᒪᔫᑦ ᐱᐅᙱᓕᕙᓪᓕᕐᓂᖏᑦ ᑎᒥᖏᑕ ᐊᒻᒪᓗ ᐃᓅᑯᑖᒍᓐᓇᕐᓂᖏᑦ ᐊᑕᔫᑦ ᐊᑯᓂᐅᓕᕐᐸᓪᓕᐊᓂᖓᓄᑦ ᓯᑯᖃᙱᑦᑑᑉ.

ᐊᑐᕐᑎᐅᔪᑦ ᑲᑎᒪᓂᖏᑦ, ᐱᑕᖃᓚᐅᕐᑐᑦ 2011 ᐊᒻᒪᓗ 2014, ᐊᓪᒃᑲᕈᑕᐅᔫᑦ ᐃᓱᒪᕐᓱᕐᑐᑎᒃ ᐊᖏᖅᑲᑎᒌᒍᑎᓄᑦ ᐊᐅᓚᕐᓯᐊᓂᖅᓴᖅᑯᒋᑦ ᓇᓄᐃᑦ ᐊᙳᓇᓱᒃᑕᑦ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᕐᑐᒥ (ᑕᑯᒃᑭᑦ ᐅᐃᒍᖏᑦ A ᐊᒻᒪᓗ B). ᐱᖃᑕᐅᔫᑦ ᑖᒃᑯᓇᓂ ᑲᑎᒪᓂᕐᓂ ᐃᓕᖃᓚᐅᕐᑐᒃᑦ ᐊᙳᓇᓱᒃᑎᓂᒃ ᐊᑦᑐᕐᑕᓂᒃ ᓄᓇᓕᓐᓂᒃ; ᐊᒻᒪᓗᑦᑕᐅᖅ ᑭᓐᖓᖏᓐᓂᒃ ᖓᕙᒪᐃᑦ, ᐆᒪᔪᕐᓂᒃ ᐊᐅᓚᕐᓯᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ, ᐊᒻᒪᓗ ᓄᓇᑖᕐᓯᒪᔫᑦ ᑎᒥᕐᑯᑎᖏᑦ ᐱᓯᒪᔫᑦ ᐊᐅᓚᕐᓯᖅᑲᑎᓖᓐᓂᕐᒧᑦ ᐃᑉᐱᒋᔭᓂᒃ. ᐊᖏᔫᑦ ᐊᖏᖅᑲᑎᒌᒍᑏᑦ ᐋᕿᑦᑕᐅᓚᐅᕐᑐᑦ ᑲᒪᒋᐊᓕᓐᓄᑦ ᓄᓇᖅᑳᕐᓂᑯᑦ ᐊᔪᙱᒍᑎᓂᒃ ᑎᒍᒥᐊᑐᓄᑦ.

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓅᓯᑎᖏᑦ

ᑕᐃᑲᓂ 2011 ᑲᑎᒪᓂᕐᒥ, ᐊᑐᕐᑕᖅ ᐃᓄᒃᔪᐊᖅᒥ, ᑯᐱᐊᒃᒥ, ᐱᑕᕐᑲᕐᑯᔭᐅᓚᐅᕐᑐᖅ ᑭᒡᒍᑕᐅᓪᓗᓂ ᐊᒥᓱᓂᒃ ᐃᓚᙱᐃᓂᖕᒋᓐᓂᒃ ᓇᓄᕐᓂᒃ ᐃᓄᐃᑦ ᐊᖑᓇᓱᒃᑏᑦ ᒫᓂ 2010/2011 ᐊᖑᓇᓱᓐᓇᕐᒥ (105 ᓇᓄᐃᑦ, ᐃᓚᐅᓪᓗᑎᒃ 30 ᓄᓇᕗᕐᒥ ᐃᓄᖕᒋᓐᓄᑦ, 73 ᓄᓇᕕᒃᒥ ᐃᓄᖕᒋᓐᓄᑦ, 1 ᐃᕐᔪ ᐃᕐᓰ ᐃᖅᑭᓖᑦ), ᐊᒻᒪᓗ ᐊᑕᔪᑦ ᐃᓱᒫᓗᒍᑏᑦ ᐊᓚᒃᑲᕐᑕᑦ ᑖᒥᓂ ᐊᒻᒪᓗ ᓯᓚᕐᔪᐊᖅᒥ ᑲᒪᕐᑲᑕᓄᑦ ᐱᓪᓗᒋᑦ ᓄᖑᕚᕙᓪᓚᐊᓂᐅᙱᒻᒪᖔᑦ ᐊᖑᓇᓱᓐᓂᖅ. ᐃᓄᒃᔪᐊᖅᒥ ᑲᑎᒪᓂᖅ ᐊᓚᒃᑳᑕᐅᓚᐅᕐᑐᖅ ᐃᓱᒪᕐᓱᕐᑐᑎᒃ ᐊᖏᕐᑲᑎᒋᒍᒻᒧᑦ ᐊᑕᓕᓚᐅᕐᑐᖅ ᒫᓂᒥ 2011/2012 ᐅᕙᖓ 2013/2014 ᐊᖑᓇᓱᓐᓇᕐᓂ. ᑕᐃᓐᓇ 2014ᒥ ᑲᑎᒪᓂᖅ, ᐊᑐᕐᑕᖅ ᐋᑐᕚᒥ, ᐊᓚᒃᑳᑕᐅᓚᐅᕐᑐᖅ ᓄᓛᙳᙵᐊᕿᒻᒥᒃ ᐃᓱᒪᕐᓱᕐᑐᑎᒃ ᐊᖏᕐᑲᑎᒋᒍᒻᒧᑦ ᐊᑐᕐᑐᖅ ᒫᓂ 2014/2015 ᐊᒻᒪᓗ 2015/2016 ᐊᖑᓇᓱᓐᓇᕐᓂ.

ᑕᐃᒪᙵᓂᒃ 2016/2017, ᐊᖑᓇᓱᕙᕐᓯᑦ ᕿᓪᓕᖕᒋᑦ ᑐᙵᕕᕐᑲᕐᓯᒪᔪᑦ ᐱᑐᕐᑲᐅᓂᕐᓯᓂᒃ, ᐱᑐᕐᑲᕐᓂᒃ ᒥᒃᓴᐅᓴᒍᑎᓂᒃ ᐃᓖᑎᒋ 943 ᓇᓄᐃᑦ ᐅᑯᓂᖓᐅᙱᑦᑐᖅ ᒫᓐᓇ ᒥᒃᓴᐅᓴᒍᑏᑦ ᐃᓖᑎᒋ 780 ᓇᓄᐃᑦ. ᕿᓪᓕᖕᒋᑦ ᐃᒪᐃᓕᖓᔪᑦ:

- ᓄᓇᕗᕐᒥ ᓄᓇᑖᖑᓯᒪᔫᑉ ᓇᓛᓂ: 25 (ᓄᓇᕗᕐᒥ ᐃᓄᓐᓄᑦ)
- ᓄᓇᕕᒃ ᑕᕆᐅᖓᑕ ᓇᓛᓂ: 23 (ᓄᓇᕕᒃᒥ ᐃᓄᓐᓄᑦ, ᐊᑕᐅᓯᐅᓴᓗᐊᖅ ᓇᓄᕐᒧᑦ ᓂᕕᖓᑖᖅ ᑐᓂᔭᐅᓪᓗᓂ ᐅᑯᓄᖓ ᐃᖅᑭᓖᑦ ᐃᕐᔪ ᐃᕐᓯ ᐊᖑᓇᓱᕙᕐᓯᖅ ᐃᓗᐊᓂ ᐃᓄᐃᑦ–ᐃᖅᑭᓖᑦ ᖃᓪᓖᕐᑲᑎᒌᕐᓯᒪᓂᖓᑕ ᓇᓛᓂ).

ᒫᓐᓇᓕ, ᐱᑕᕐᑲᙱᑦᑐᖅ ᐱᔭᕐᓴᓄᑦ ᕿᓪᓕᓂᒃ ᒫᓂ ᐃᕐᔪ ᑕᕆᐅᖓᑕ ᓇᓛᓂ ᓂᒋᐊᓂ ᐃᓄᐃᑦ–ᐃᖅᑭᓖᑦ ᖃᓪᓕᕐᑲᑎᒌᕐᓯᒪᓂᖓᑕ ᓇᓛᓂ, ᑕᒪᓐᓇ ᐃᓚᐅᒻᒥᔪᖅ ᓄᓇᕕᒃ ᑕᕆᐅᖓᑕ ᓇᓛᓄᑦ, ᐅᕝᕙᓘᓐᓃᑦ ᓄᓇᕐᐸᓱᒃᑐᒧᑦ ᑯᐱᐊᒃᒥ. ᐊᑖᒧᑦ ᐊᑎᓕᐅᕐᕕᐅᒪᔪᖅ 9, ᐱᑕᕐᑲᙱᑦᑐᖅ ᐊᑐᕐᓂᓕᒻᒥᒃ ᐊᖑᓇᓱᓐᓂᒧᑦ ᕿᓪᓕᒋ.ᔭᒥᒃ ᐊᓐᑎᐅᕆᐅᒥ ᐃᖅᑭᓕᓐᓄᑦ; ᑭᓯᐊᓂ ᐃᓱᒪᕐᓱᕐᑐᑎᒃ ᕿᓪᓕᕐᑲᒃᑲᐃᔪᑦ ᐃᓖᑎᒋ 30 ᓇᓄᐃᑦ ᐊᒡᕋᒧᒥ ᓱᒡᕋᑕᐅᑦᑕᐃᓕᒍᓐᓇᕐᑐᑦ ᓂᐅᒡᕈᑕᐅᓗᑎᒃ ᐋᕿᑦᑕᐅᓂᑯ 1976ᒥ ᐅᕚᓇ ᐋᕿᑦᓯᒪᓗᐊᙱᑦᑐᖅ ᐊᖏᕐᑲᑎᒋᒍᑦ ᐅᑯᓄᖓ ᐊᓐᑎᐅᕆᐅᒥ ᓴᕙᒪᖕᒋᑦ ᐊᒻᒪᓗ ᓯᔾᔭᒥᐅᑕᑦ ᐃᖅᑭᓖᑦ ᓄᓇᖕᒋᑦ. ᑕᐃᒪᙵᓂᒃ ᑎᑎᕋᕐᑕᐅᒻᒪᑕ ᓇᓄᐃᑦ ᐃᒪᐃᑦᑑᓪᓗᒋᑦ ᐅᓗᕆᐊᓇᕐᑐᕐᑦᑐᑦ ᐊᑖᒧᑦ ᐊᓐᑎᐅᕆᐅᒥ ᓄᖑᓕᕐᓯᕆᔭᓄᑦ ᐆᒪᔪᕐᓄᑦ ᒪᓕᒐᖅᔪᐊᖅ 2009ᒥ ᓂᐅᒡᕈᑕᐅᓂᖕᒋᑦ ᓇᓄᕋᔭᐃᑦ ᐃᓗᐊᓂ ᐊᓐᑎᐅᕆᐅ ᐊᔪᕐᑎᑕᐅᓕᕐᑐᑦ.

ᑕᒪᒃᑭᓐᓂ ᓄᓇᕗᕐᒥ ᓄᓇᑖᖑᓯᒪᔫᑉ ᓇᓛᓂ ᐊᒻᒪᓗ ᓄᓇᕕᒃ ᑕᕆᐅᖓᑕ ᓇᓛᓂ, ᐱᑕᕐᑲᕐᑐᑦ ᐊᖑᓇᓱᕙᕐᓴᓄᑦ ᕿᓪᓕᐅᔪᑦ ᐋᕿᑦᑕᐅᓚᐅᕐᑐᑦ ᐃᓱᒪᒋᓪᓗᒋᑦ ᕿᓲᓂᖕᒋᓐᓂᒃ ᓂᕈᐊᕐᓗᓂ ᐊᖑᓇᓱᓐᓂᖅ ᐃᒫᒃ ᒪᒡᕘᒃ ᐊᖑᓴᓪᓘᑦ ᐃᓘᓐᓇᖕᒋᓐᓄᑦ ᐊᕐᓇᓗᓐᓄᑦ ᐊᒻᒪᓗ ᐊᓯᔾᔨᑕᕐᑐᑦ ᐱᔭᕐᓴᑦ ᐋᕿᓯᒪᓂᖕᒋᑦ ᐋᕿᒋᐊᕐᑐᖕᒋᑦ ᐱᔪᕐᑲᓗᐊᕐᓂᕐᐸᑦ (ᐃᓚᙱᐃᒍᑏᑦ ᑐᙵᕕᐅᔪᓂᒃ ᑐᓂᐅᕐᑲᓴᕐᓂᒃ ᕿᖑᓪᓕᕐᒥ ᐊᒡᕋᒧᒥ) ᐅᕝᕙᓘᓐᓃᑦ ᐱᔪᕐᑲᙱᓗᐊᕐᓂᕐᐸᑦ (ᑲᑎᕐᓯᐸᓪᓕᐊᔪᑦ ᐊᒥᐊᒃᑯᑦ ᐊᑐᕐᐸᑕᐅᓴᔾᔪᑦ ᓯᕗᓂᑦᑎᓐᓂ ᐊᒡᕋᒧᓂ). ᕿᓅᓂᖕᒋᓐᓂᒃ–ᓂᕈᐊᕐᓗᓂ ᐊᖑᓇᓱᓐᓂᖅ ᐊᑐᓕᕐᑎᑕᐅᓚᐅᕐᑐᖅ ᐊᔪᕐᑯᓇᕆᑦ ᐊᒥᓅᓂᕐᐹᓂᒃ ᐊᔪᕐᓇᖕᒋᑉᐸᑦ ᖃᓯᐅᓂᖕᒋᓐᓂᒃ ᓇᓄᐃᖕᒋᑦ ᐃᓚᙱᐃᒍᑕᐅᒍᓐᓇᕐᑐᑦ ᓄᖑᕚᕙᓪᓕᐊᖕᒋᓪᓗᓂ ᐊᑐᓂᑦ ᐊᒡᕋᒧᓂ, ᐃᓕᓴᕆᓗᒋᑦ ᐃᒫᒃ ᐃᓚᙱᐃᔭᐃᓂᖅ ᕿᑐᕐᖏᐅᕈᓐᓇᕐᑐᓂᒃ ᐊᕐᓇᓗᓐᓂᒃ ᓇᓄᕐᓂᒃ ᐊᖏᓂᕐᓴᒥᒃ ᐊᑦᑐᐃᒻᒪᑦ ᐱᑕᕐᑲᕐᑐᑦ ᖃᓄᐃᓕᖓᓂᖕᒋᓐᓂᒃ ᒪᑯᓇᙱᑦ ᐃᓚᙱᐃᓂᖅ ᐊᖑᓇᓪᓗᓐᓂᒃ ᓇᓄᕐᓂᒃ ᖃᖓᑐᐃᓐᓇᒃᑯᑦ.

ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᑐᓴᕋᓵᑦ ᑐᓂᔭᑦ ᐅᕙᖓ PBTC, ᓄᓖᖑᓂᕐᐹᑦ 5-ᐊᒡᕋᒧᓄᑦ (2013/14-2017/18), 3–ᐊᒡᕋᒧᓄᑦ (2015/2016-2017/2018), ᐊᒻᒪᓗ ᒫᓐᓇ ᐊᒡᕋᒧᒥ (2017/2018) ᒥᒃᓴᐅᓴᒍᑏᑦ ᕿᑎᖓᓃᑦᑐᓂᒃ ᐊᖑᓇᓱᒃᑕᓂᒃ ᓇᓄᕐᑲᐅᕐᑐᒥ ᐃᒪᐃᑑᓯᒪᔪᑦ 36.4, 33.7, ᐊᒻᒪᓗ 33 ᓇᓄᐃᑦ, ᑭᖑᓕᕇᕐᑐᑎᒃ. ᑖᒃᑯᐊ ᒥᒃᓴᐅᓴᒍᑏᑦ ᐊᔾᔨᖕᒋᑦ ᐅᑯᐊ 3.5% ᐅᕙᖓ 3.9% ᐃᓚᙱᐃᔭᐃᒍᑎᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖕᒋᑦ ᐃᓱᒪᒋᓗᒋᑦ ᐱᑐᕐᑲᐃᑦ ᓇᓄᕐᑲᐅᕐᑐᓂ ᒥᒃᓴᐅᓴᒍᑏᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖕᒋᓐᓂᒃ. ᐊᖑᓇᓱᓐᓂᖅ ᐊᔾᔨᓚᖓᓱᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖕᒋᑦ ᓯᕗᒨᕐᐸᓪᓕᐊᓗᓂ ᐱᑕᕐᑲᕋᔭᕐᑐᖅ ᐊᒡᕋᒧᒥ ᐃᓚᙱᐃᔭᐃᒍᑎᓂᒃ ᐃᓖᑎᒋ 4.2% ᐅᕙᖓ 4.7% ᒫᓐᓇ ᐱᑕᕐᑲᕐᑐᓂᒃ ᒥᒃᓴᐅᓴᒍᑎᓂ.

ᓄᓇᕗᕐᒥ, ᐃᓄᐃᑦ ᓄᓇᖏᑦ ᓴᓂᑭᓗᐊᖅᒥ ᑖᒃᑯᑐᐊᑦ ᐊᖑᓇᓱᒃᐸᑦᑐᑦ ᐃᓗᐊᓂ ᓂᒋᐊᑕ ᕿᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᓂ ᓇᓄᕐᑲᐅᕐᑐᒥ. ᐊᙳᑕᐅᔪᓂᒃ ᐅᕐᑲᐅᓯᕐᑲᕐᓂᖅ ᐃᓱᒪᒋᔭᖅ ᑎᑭᒋᐊᖓ 100%. ᑯᐱᐊᒃᒥ, ᐱᑕᓕᒃ ᐱᖓᓱᓂᒃ ᓄᓇᕕᒃᒥ ᓄᓇᓕᓐᓂᒃ (ᐃᓄᒃᔪᐊᖅ, ᐅᒥᐅᔭᖅ, ᐊᒻᒪᓗ ᑰᔾᔪᐊᕐᐱᒃ) ᐊᒻᒪᓗ ᐱᖓᓱᓂᒃ ᓯᔾᔭᒥᐅᑕᕐᓂᒃ ᐃᖅᑭᓖᑦ ᓄᓇᖕᒋᓐᓂᒃ (ᕗᐊᑦᒪᒡᔫᔅᑐᐃ, ᕗᐊᔅᐙᒡᓴᓂᔅ, ᐊᒻᒪᓗ ᕐᓯᔅᓯᑉᐱ) ᑖᒃᑯᐊ ᐊᖑᓇᓱᒃᑐᕐᓴᐅᕙᑦᑐᑦ ᑖᒃᑯᓇᙱᑦ ᓇᓄᕐᑲᐅᕐᑐᓂᒃ. ᐃᓛᒃ ᐱᑕᕐᑲᙱᑦᑑᓴᓗᐊᖅ ᒪᓕᒐᕐᑎᒍᑦ ᐱᑕᕐᑲᕆᐊᓕᓐᓂᒃ ᓄᓇᑖᕐᑲᑕᐅᒪᔪᑦ ᔭᐃᒡᔅ ᐸᐃᒥ ᐊᒻᒪᓗ ᐅᐊᓐᓇᖓᓂ ᑯᐱᐊᒃ ᐊᖏᕐᑲᑎᒋᒍᑎᓂ ᐅᕐᑲᐅᓯᕐᑲᕐᓂᕐᒥᒃ ᐃᓄᐃᑦ–ᑕᐃᒪᐃᑎᑕᖕᒋᓐᓂᒃ ᓇᓄᐃᑦ ᑐᕐᑯᕋᕐᓂᖕᒋᓐᓂᒃ, ᑯᐱᐊᒃᒥ ᓴᕙᒪᖕᒋᑦ ᑲᑎᕐᓯᐃᓯᒪᔪᑦ ᐊᙳᑕᐅᔪᓂᒃ ᐅᓂᒃᑳᓂᒃ ᐊᒻᒪᓗ ᑐᓂᓪᓗᒋᑦ ᓂᕕᖓᑖᑦ ᑕᐃᒪᙵᓂᒃ 1985. ᐃᓚᖕᒋᑦ ᐊᙳᑕᐅᔪᑦ ᐅᕐᑲᐅᑕᐅᔪᑦ ᑯᐱᐊᒃᒥ ᓴᕙᒪᓄᑦ ᒫᓐᓇ ᖃᐅᔨᒪᓇᙱᑦᑐᑦ, ᑭᓯᐊᓂ ᐃᓱᒪᒋᔭᑦ ᐃᓄᐃᓴᓐᓂᕐᓴᐅᕆᐊᖕᒋᑦ 100%ᒥᒃ.

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓅᓯᑎᖏᑦ

ᐊᓐᑎᐅᕆᐅᒥ, ᐱᑕᓕᒃ ᑖᓚᒪᓂᒃ ᓱᙱᒥ ᐃᖅᑭᓖᑦ ᓄᓇᖏᓐᓂᒃ ᐱᐅᓯᕐᒥᒍᑦ ᐊᖑᓇᓱᒃᐸᑦᑐᓂᒃ ᓇᓄᕐᓂᒃ ᒫᖑᑦ ᓂᕆᐊᓂᒃ ᕿᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᒥᒃ {Fort severn Wi8nisk (Peawanuk) Attawapiskat, Fort Albany, ᐊᒻᒪᓗ Kashechewan), ᐊᒻᒪᓗ ᐊᑕᐅᓯᖅ ᓄᓇᓕᒃ (Moosonee/Mosse Factory) ᐃᓛᓐᓂᒃᑯᑦ ᐅᖃᐅᓯᖃᕐᐸᑦᑐᑦ ᓴᐱᒻᒥᓪᓗᓂᒃ ᐃᓅᓯᕐᒥᒃ ᐊᒻᒪᓗ ᐱᕐᑯᑎᓂᒃ ᑐᕐᑯᑦᓯᕙᕆᐊᑦᓴᖅ. ᐃᓚᖏᑦᑎᖅ ᐊᙳᑕᐅᔪᑦ ᐅᖃᐅᑕᐅᕙᑦᑐᑦ ᒐᕙᒪᖏᓐᓄᑦ ᐊᓐᑎᐅᕆᐅ ᒫᓐᓇ ᖃᐅᔨᒪᙱᑦᑐᑦ.

ᐊᓂᒍᕐᑐᓂ ᖃᓕᓂ ᐊᒃᖒᒍᓂ, ᐅᑯᐊ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᑭᓪᓕᕆᔾᔭᑦ ᐊᑐᕐᑕᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᐅᑯᐊ ᐊᙳᑕᐅᔪᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ (H) ᐅᖃᐅᑕᐅᔪᑦ ᐆᒪᔪᕐᓂᒃ ᐊᐅᓚᑦᓯᔨᓄᑦ:

ᐊᖑᓇᓱᓐᓇᖅ	ᓄᓇᕗᑦᵻ		ᑯᐱᐊᒃᵻ		ᐊᓐᑎᐅᕆᐅ	
	ᑭᓪᓕᖏᑦ	H	ᑭᓪᓕᖏᑦ	H	ᑭᓪᓕᖏᑦ	H
2008/2009	TAH = 25	26	ᐱᑕᖅᑲᖏ	9	ᐱᑕᖅᑲᖏ[a]	3
2009/2010	TAH = 25	25	ᐱᑕᖅᑲᖏ	36	ᐱᑕᖅᑲᖏ[a]	1
2010/2011	TAH = 30	30	ᐱᑕᖅᑲᖏ	74	ᐱᑕᖅᑲᖏ[a]	0
2011/2012	TAH = 25	25	VA = 30	22	ᐱᑕᖅᑲᖏ[b]	4
2012/2013	TAH = 25	26	VA = 30	33	ᐱᑕᖅᑲᖏ[b]	2
2013/2014	TAH = 25	27	VA = 30	11	ᐱᑕᖅᑲᖏ[b]	0
2014/2015	VA = 20	20	VA = 23	22	ᐱᑕᖅᑲᖏ[c]	1
2015/2016	VA= 20	20	VA = 22	19	ᐱᑕᖅᑲᖏ[c]	2
2016/2017	TAH = 25	22	TAT=23	7	ᐱᑕᖅᑲᖏ[a]	2
2017/2018	TAH = 25	28	TAT=23	5	ᐱᑕᖅᑲᖏ[a]	0

TAH: ᑲᑎᑦᑐᕆᑦ ᐊᔪᙱᑕᑦ ᐊᖑᓇᓱᒃᑕᐅᓂᕐᒥᒃ; TAT: ᑲᑎᑦᑐᕆ ᐊᔪᙱᑕᑦ ᐱᔭᐃᓂᕐᒥᒃ; VA: ᐊᖑᓇᓱᒐᑦᓴᑦ ᑭᓪᓕᖏᑦ ᐋᖅᑭᑦᑕᑦ ᐃᓱᒪᕐᓱᕐᑐᑎᒃ ᐊᖏᖅᑲᑎᕿᒍᑎᒃᑯᑦ ᐊᑐᕐᑎᓄᑦ. ᑕᑯᒃ ᓈᓂᖅ ᐅᓂᒃᑳᖅ ᓇᓗᓇᐃᔭᕐᓯᒪᔪᑦ ᐱᓪᓗᕆᑦ ᐊᖑᓇᓱᒐᑦᓴᑦ ᑭᓪᓕᖏᑦ, ᐊᒻᒪᓗᑦᑕᐅᖅ ᓇᓕᖏᑦ ᑕᒪᒃᑯᐊ ᑭᓪᓕᖏᑦ ᐱᑕᖅᑲᕐᓯᒪᓂᖏᑕ
[a]ᐃᓱᒪᕐᓱᕐᑐᓂ ᐱᔭᑦᓴᑦ ᐃᒫᑎᕆ 30 ᓇᓄᐃᑦ ᐋᖅᑭᑦᑕᐅᓚᐅᕐᑐᖅ 1976ᒥ ᐅᕗᓇ ᐋᖅᑭᓯᒪᓗᐊᖏᑦᑐᖅ ᐊᖏᖅᑲᑎᕿᒍᑦ ᐅᑯᓄᖓ ᐊᓐᑎᐅᕆᐅᒥ ᒐᕙᒪᖏᑦ ᐊᒻᒪᓗ ᓱᙱᒥᐅᑕᑦ ᐃᖅᑭᓖᑦ ᓄᓇᖏᑦ, ᑕᐃᑲᓂ ᐊᒥᓲᓂᒥᕐᐹᑦ 30 ᓇᓄᕋᔭᐃᑦ ᓱᒃᕋᑦᑕᐃᓕᓗᕆᑦ ᓇᓪᓕᐊᓐᓂᑐᐃᓐᓇᖅ ᐊᒃᖒᒍᒥ. ᔫᑎᒻᐱᕆ, 2009ᒥ, ᓇᓄᐃᑦ ᑎᑎᕋᕐᑕᐅᓚᐅᕐᑐᑦ ᐊᑖᒍᑦ ᐊᓐᑎᐅᕆᐅᒥ ᓄᖑᓕᕐᓱᕆᔭᓄᑦ ᐆᒪᔪᕐᓄᑦ ᒪᓕᒐᕐᔪᐊᖅ, ᐊᔪᕿᑕᐅᔪᖅ ᓂᐅᒃᑭᑎᖅᑲᕐᓂᕐᒥᒃ ᓇᓄᕋᔭᓂᒃ ᐃᓗᐊᓂ ᐊᓐᑎᐅᕆᐅ. ᑕᐃᒪ, ᓇᓄᕋᔭᐃᑦ ᓱᒃᕋᑦᑕᐅᓯᒪᓕᕐᑐᑦ ᐊᓐᑎᐅᕆᐅᒥ.
[b]ᐃᓱᒪᕐᓱᕐᓗᓂ ᑭᓪᓕᕆᔾᔭᑦ 5 ᓇᓄᐃᑦ ᐊᖏᕈᑕᐅᓚᐅᕐᑐᖅ ᓱᙱᒥᐅᑕᕐᓄᑦ ᐃᖅᑭᓖᑦ ᓄᓇᖏᓐᓂ ᐊᓐᑎᐅᕆᐅᒥ ᐅᐸᑦᓯᒪᔪᑦ ᑕᐃᑲᓂ 2011 ᐃᓄᒃᔪᐊᖅᒥ ᑲᑎᒪᓂᕐᒧᑦ, ᑭᓯᐊᓂ ᐊᑕᖏᓚᐅᙱᑦᑐᑦ ᓄᓇᓖᑦ ᐅᐸᑦᑐᑦ.
[c]ᐃᓱᒪᕐᓱᕐᓗᓂ ᑭᓪᓕᕆᔾᔭᑦ 3 ᓇᓄᐃᑦ ᐊᕙᑕᐅᓂᐊᕐᑐᑦ ᐅᑯᓄᖓ ᐊᓐᑎᐅᕆᐅᒥ ᐊᒻᒪᓗ ᑯᐱᐊᒃᒥ ᐃᖅᑭᓕᓐᓄᑦ, ᐊᓯᔾᔨᐸᓪᓗᑎᒃ ᐊᕙᑕᐅᓂᖏᑦ ᐊᒃᖒᒍᒥ ᐱᕆᐊᕐᑐᒍ 2 ᐊᓐᑎᐅᕆᐅᒥ ᐃᖅᑭᓕᓐᓄᑦ 2014/2015 ᐊᖏᕈᑕᐅᓚᐅᕐᑐᖅ ᓱᙱᒥ ᐃᖅᑭᓖᑦ ᓄᓇᓕᓐᓄᑦ ᐊᓐᑎᐅᕆᐅᒥ ᐅᐸᑦᑐᑦ 2014ᒥ ᐋᑐᕚᒥ ᑲᑎᒪᓂᕐᒧᑦ, ᑭᓯᐊᓂ ᐊᑕᖏᓚᐅᙱᑦᑐᑦ ᓄᓇᓖᑦ ᐅᐸᑦᑐᑦ.

<u>ᓄᓇᖅᑲᖅᑳᕐᓂᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ</u>

2018ᒥ, ᓄᓇᕕᒃᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔮᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᐱᔭᕇᓚᕐᑐᑦ ᑐᑭᓯᓇᓯᐊᕐᑐᒥᒃ ᓇᓄᕐᓂᒃ ᐃᓄᐃᑦ ᖃᐅᔨᒪᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ. ᖃᐅᔨᔭᐅᓗᐊᕐᑐᑦ ᐃᓚᖃᕐᑐᑦ: (a) ᐊᒥᓱᕈᕐᐸᓕᕐᓂᖏᓐᓂᒃ ᖃᓯᐅᓂᖏᑕ ᓇᓄᐃᑦ ᑕᑯᔭᐅᕙᑦᑐᑦ ᓄᓇᕕᒃᒥ ᐃᓄᓐᓄᑦ ᑕᐃᒪᙵᓂᒃ 1970ᑦ; (b) ᓯᐊᒻᒪᕐᓯᒪᓂᖅᓴᐃᑦ ᓇᒦᓐᓂᖏᑦ ᓇᓄᐃᑦ, ᐃᓚᐅᓪᓗᑎᒃ ᐊᑐᕐᑐᑦ ᓄᓇᐅᑉ ᓇᓛᓂᒃ; ᐊᒻᒪᓗ (c) ᓇᓄᐃᑦ ᑎᒥᖏᑦ ᓇᒍᓇᐃᔭᕐᑕᑦ ᖃᓄᐃᙱᑦᓯᐊᕆᐊᖏᑦ. ᐱᓪᓗᒍ ᐊᐅᓚᑦᓯᓂᖅ, ᑕᐃᒪᙵᑦ ᐅᖃᖅᑕᐅᕙᑦᑐᖅ ᐃᒫᒃ ᐱᐅᓯᑐᖅᑲᒃᑯᑦ ᑲᒪᔨᐅᓂᕐᒥᒃ ᑲᒪᒍᓯᐅᔪᑦ ᓱᓕ ᓈᒻᒪᑦᑐᑦ ᐱᓗᐊᑦᑕᐃᓕᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐃᒫᒃ ᖃᐅᔨᒃᑲᐅᔾᔭᐅᓂᖏᑦ ᐱᔭᑦᓴᑦ ᑭᓪᓕᖅᑐᕆᑦ ᓇᓄᕐᓂᒃ ᐊᖑᓇᓱᓐᓃᑦ ᐱᑕᖅᑲᓇᐊᑐᙱᑐᖅ. ᐱᑕᖅᑲᕋᔪᑐᖅ ᑲᑲᒪᔨᐅᓂᕐᒥᒃ ᐱᐅᓯᐅᔪᑦ ᐃᓚᖅᑲᖅᑐᑦ ᐊᖑᓇᓱᓐᓂᕐᒥᒃ ᑭᓯᐊᓂ ᑐᙵᕕᖏᓗᕆᑦ ᐱᔭᐅᕆᐊᓖᑦ ᐊᒻᒪᓗ ᐃᕆᑦᓯᑦᑕᐃᓕᓗᓂ

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖓᑦ

ᐆᒪᔪᕐᒥᒃ ᑐᕐᑯᑕᒥᒃ, ᐊᖑᓇᓱᒃᐸᖏᑦᑐᓂ ᓇᓄᕐᓂᒃ ᐊᐅᔭᒃᑯᑦ, ᐊᒻᒪᓗ ᐊᖑᓇᓱᒃᐸᖏᑦᑐᓂ ᐊᑎᕐᑕᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᖃᐅᔨᒪᔭᓂᒃ ᐋᓈᓇᒋᔭᓂᒃ.

ᓄᓇᕗᒻᒥ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖅᑲᖏᑦ, ᐊᒥᖅᑳᕈᑕᐅᔪᑦ ᓄᓇᖅᑲᑎᒌᓄᑦ ᓴᓂᑭᓗᐊᖅᒥ ᑕᐃᑲᓂ ᓅᕕᒻᐱᕆ 2018 ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᓇᐹᔪᐊᖅ ᑭᒃᑯᓕᒫᓂᒃ ᓈᓚᑦᑎᔪᓐᓂᖅᓴᓄᑦ ᑲᒪᒋᑦᑐᒋᑦ ᓄᓇᕗᒻᒥ ᓇᓄᕐᓂᒃ ᐊᐅᓚᔾᔪᑎᖅᑖᕐᓂᒃᑯᑦ ᐸᕐᓇᒍᑏᑦ, ᐅᖅᑲᓚᐅᖅᑐᑦ ᐃᒫᒃ ᓇᓄᐃᑦ ᐊᒥᓱᕈᕐᐸᓪᓕᐊᓪᓚᑕ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᕐᒪᑎᑐᖅ ᓄᓇᕗᒻᒥ, ᐃᓚᐅᓪᓗᓂ ᖃᓂᒋᔮᖅᓯᒪᓂ ᓴᓂᑭᓗᐊᖅ. ᐱᖅᑲᑕᐅᔪᑦ ᐅᖅᑲᓚᐅᖅᒥᔪᑦ ᐃᒫᒃ ᓯᓚᐅᑉ ᐊᓯᔾᔨᖅᓂᖓ ᐱᔾᔪᑕᐅᔾᔮᖏᓪᓚᑦ ᐊᓯᐅᓂᖅᒋᓐᓄᑦ ᓇᓄᐃᑦ. ᐃᒪᐃᓕᖓᓪᓚᑦ ᐃᓄᐃᑦ ᖃᐅᔨᒪᔭᑐᖅᑲᖏᑦ, ᐱᐅᓯᖅᓯᖅᑐᑦ ᓇᓄᐃᑦ ᐊᒥᓱᕈᕐᐸᓕᖅᐸᑦᑐᑎᒃ ᐊᒻᒪ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐸᑦᑐᑎᒃ ᐅᑎᑐᖅᑕᖅᑐᒥᒃ.

ᖃᐅᔨᓴᖅᓂᖅᒧᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᒪᓂᖓᓂᒃ ᐃᖅᑭᓖ% ᓄᓇᒥᒃ ᐊᑐᖅᑏᑦ, ᐅᐊᓐᓇᖓᓂ ᐋᔾ ᑕᕆᐅᖓᑕ ᓇᓛᓂ, ᑲᒪᒋᔭᖓᑦ ᐅᑯᐊ ᐃᖅᑭᓖᑦ ᓚᕿᒃᑲᐅᖓᑦ, ᐋᔾ ᑕᕆᐊᖓᑕ ᓇᓛᓂ ᐆᒪᔪᓕᕆᓃᑦ ᑲᑎᒪᔩᖓᑦ ᐊᒻᒪᓗ ᐃᖅᑭᓖᑦ ᒥᑭᒋᐊᓂᐊᕐᑏᑦ ᑲᑐᔾᔨᖅᑲᑎᒋᖓᑦ, ᒫᓇ ᐱᔭᕇᖅᑕᐅᕙᓪᓕᐊᔪᖅ. ᓯᕗᓪᓕᖅ ᖃᐅᔨᓴᑦ ᐃᓚᖃᖅᑐᑦ ᐅᖃᐅᓯᖅᑕᐅᔪᓂᒃ ᐃᓱᒪᓗᑦᑎᓂᒃ ᐱᓪᓗᑎᒃ ᐊᒥᓱᕈᖅᓯᐅᖅᓯᒪᓂᖓᑦ ᖃᓯᐅᔨᓂᖓᑕ ᓇᓄᐃᑦ ᐋᔾ ᑕᕆᐅᖓᑕ ᓇᓛᓂ ᐊᒻᒪᓗ ᐊᒥᓱᕈᖅᓯᐅᖅᓯᒪᓂᖓᑦ ᐃᓄᐃᑦ–ᓇᓄᐃᑦ ᑲᑐᑎᑦᑕᕐᓂᖓᑕ. ᓯᓚᐅᑉ ᐊᓯᔾᔨᕐᓂᖓ, ᐊᒻᒪᓗ ᐱᓗᐊᖅᑐᒥᒃ ᐊᓯᔾᔨᕐᓂᖓᑦ ᓯᑯᖅᑲᕐᓂᖓᑕ ᑭᒡᒐᖓ ᑕᓯᐅᔭᖅᔭᐊᖓᓂ ᐊᒻᒪᓗ ᓴᐃᓴ ᐸᐃᒥ, ᐅᖅᑲᐅᑕᐅᓚᐅᖅᑐᑦ ᐱᔾᔪᑕᐅᕆᐊᖓᑕ ᖃᐅᔨᓴᐅᕙᑦᑐᓄᑦ ᐊᓯᔾᔨᕆᑎᓄᑦ.

<u>ᖃᐅᔨᓴᖅᑎᒻᒪᕆᑦ ᖃᐅᔨᓴᕈᑎᖓᑦ</u>

ᖃᐅᔨᓴᑦ ᒪᑭᒪᓃᑦ ᑲᒪᒋᔭᐅᓂᑯᓐᓂᒃ–ᑕᑯᔭᐅᒃᑲᓂᖅᑑᓐᓂᒃ ᖃᐅᔨᓴᖅᓂᒃᑯᑦ ᑲᒪᒋᔭᖅ ᒫᓂᓗᐊᑕᖅ ᐊᓐᑎᐅᑎᐅ ᓯᔭᖓᓂ ᑭᒡᒐᖓ ᑕᓯᐅᔭᖅᔭᐊᖓᓂ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᒫᒃ ᓇᓄᐃᑦ ᖃᐃᑦᓯᐅᓂᖓᑦ ᐊᓯᔾᔨᖅᓯᒪᓗᐊᕈᑎᒪᓪᓚᑦ ᐊᑯᓐᓂᖓᓂ 1984-1986 ᐊᒻᒪᓗ 2003-2005. ᑭᖑᓂᐊᒍᑦ ᕿᒥᕐᕈᓂᐅᑉ ᓇᓄᕐᓂᒃ ᑲᒪᒋᔭᐅᓂᑯᓂᒃ ᐊᑭᒥᖅ ᕿᑭᖅᑕᒥ ᓴᐃᓴ ᐸᐃᒥ ᑕᐃᑲᓂ 1997 ᐊᒻᒪᓗ 1998, ᑲᑎᑦᑐᒥᑦ ᓂᕆᐊᓂ ᑭᒡᒐᖓ ᑐᓱᐅᔭᖅᔭᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᒥ ᒥᒃᓵᓴᓚᐅᖅᑕᖓᑦ ᐅᑯᐊ PBTC ᐊᒥᓲᓂᖅᑲᓇᐊᖓᑦ ᐊᑯᓐᓂᖓᓂ 900-1000 ᓇᓄᐃᑦ ᐊᐅᓚᔪᓂᖅ ᐱᔪᑕᐅᓪᓗᓂ.

ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᒪᒋᔭᑦ ᒫᓂ 2011/2012 ᐊᒻᒪᓗ 2016, ᐊᓚᒃᑲᐃᔪᑦ ᒥᒃᓵᓴᐅᑎᓂᒃ ᖃᑦᓯᐅᓂᖓᓂᒃ ᐃᒫᑎᒋ 943 ᓇᓄᐃᑦ (95% ᓇᓗᖕᒋᒍᑦ: 658-1350) ᐊᒻᒪᓗ 780 ᓇᓄᐃᑦ (95% ᓇᓗᖕᒋᒍᑦ: 590-1029), ᑭᖑᓕᕈᑦᑐᑎᒃ. ᑖᒃᑯᐊ ᐊᓯᔾᔨᕈᑏᑦ ᐊᔾᔨᖏᑦ 17% ᐃᓄᐃᓴᓪᓕᕙᓪᓕᖅᑐᑦ ᖃᑦᓯᐅᓂᖓᑦ. ᐃᓚᒃ 95% ᓇᓗᖕᒋᒍᑦ ᑖᕙᓂ ᒪᑉᐹᒃ ᒥᒃᓵᓴᒃᑐᓂ ᖃᓪᓚᖅᑲᑎᕐᓯᒪᔫᒃ, 18% ᐃᓄᐃᓴᓪᓕᕙᓪᓕᖅᑐᑦ ᒥᒃᓵᓴᒍᑎᑦ ᖃᑦᓯᐅᓂᖓᓂᒃ ᐅᖅᑲᐅᑕᐅᓚᐅᖅᑑᑦ ᑕᒫᓂᔅᓴᐃᓐᓇᖅ ᖃᓂᒋᔮᖓᓂ ᐱᖓᓐᓇᖓᓂ ᑭᒡᒐᖓ ᑕᓯᐅᔭᖅᔭᐊᖓᑕ ᐅᖅᑲᐅᑕᐅᔪᖅ ᐅᑯᓇᖕᖓᑦ PBTC ᐊᓯᕆᔭᐅᓪᓗᓂ ᓇᓗᓇᖕᒋᒍᑦ ᓇᓗᓇᐃᖅᓯᔪᖅ ᐃᒫᒃ ᓇᓄᐃᑦ ᖃᑦᓯᐅᓂᖓᑦ ᓂᕆᐊᓂ ᑭᒡᒐᖓ ᑕᓯᐅᔭᖅᔭᐊᓂ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐸᓪᓚᐃᓪᓚᑕ. ᒥᒃᓵᓴᒍᑎᑦ ᐃᓚᖓᓐᓂᒃ ᐊᓯᔾᔨᖅᑕᓐᓂᒃ ᓇᓄᕐᓂᒃ ᓂᕆᐊᓂ ᑭᒡᒐᖓ ᑕᓯᐅᔭᖅᔭᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᒥ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᓚᐅᕐᒥᔪᑦ, ᐅᕙᖕᖓᑦ 12% 2011ᒥ ᐅᕗᖓ 5% 2016ᒥ, ᐃᒪᐃᑎᓪᓗᒍ ᐃᓚᖏᑦ ᐊᑎᕐᑕᐃᑦ ᓱᓪᓕᖅᓯᒪᓕᑎᒃ (16% 2012ᒥ ᐊᑭᐊᓂ 19% 2016ᒥ). ᑖᒃᑯᐊ ᖃᐅᔨᓴᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᓄᐃᓴᕆᐊᖓᑦ ᐃᓅᒍᓐᓇᖅᑐᑦ ᐊᑎᕐᑕᐃᑦ ᑎᑭᐅᑎᓗᑎᒃ ᐊᓯᔾᔨᕐᓇᓂᑦ 2015ᒥ. ᐃᓚᒋᓕᐅᓯᒪᔪᑦ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᓂᖅ, ᑲᒪᒋᔭᖅ 2018ᒥ, ᓈᓚᔪᖅ ᐊᒥᓱᓂᒃ ᖃᓂᒋᑦᑑᑎᓂᒃ ᐃᓚᖓᓂ ᓇᓄᖅᑲᐅᖅᑑᑉ (ᐊᓐᑎᐅᑎᐅ ᓯᔭᖓᓂ ᐊᒻᒪᓗ ᐊᑭᒥᖅ ᕿᑭᖅᑕᒥ), ᐊᑐᖅᑕᐅᓚᐅᖅᑐᖅ ᖃᐅᔨᓴᖅᑐᒍ ᐅᑯᐊ 2016ᒥ ᖃᐅᔨᓴᖅᓂᕐᒥ ᖃᐅᔨᓴᑦ ᓇᓗᓇᐃᖅᓯᒪᓂᖓᓐᓂᒃ ᐊᓯᔾᔨᖅᑐᖅᓂᒃ. ᖃᐅᔨᓴᑦ ᐊᓚᒃᑲᐃᓚᐅᖅᑐᑦ ᐊᔾᔨᒌᖕᒋᑐᓂᒃ ᐊᓯᔾᔨᕆᓕᖓᓂᒃ ᐃᓚᖓᓂ ᐊᒻᒪᓗ ᐃᓄᐃᓴᓐᓂᖅᓴᓕᕈᖕᖓᕐᓗᑎᒃ ᖃᑦᓯᐅᓂᖓᑦ ᓇᓄᐃᑦ ᖃᐅᔨᓴᖅᑲᐅᑎᓂᖅᑐᒥ ᐃᓚᖓᓂ ᓯᔭᖓᓐᓂ ᓇᓛᓂ 2018ᒥ (249 ᓇᓄᐃᑦ, 95% ᓇᓗᖕᒋᒍᑦ: 230-270) ᐃᓱᒪᒋᓪᓗᒍ 2016 (269 ᓇᓄᐃᑦ, 95% ᓇᓗᖕᒋᒍᑦ: 244-297) ᐊᒻᒪᓗ ᐃᓄᐃᓴᓐᓂᖅᓴᐅᓪᓗᑎᒃ ᖃᑦᓯᐅᓂᖓᑦ ᑕᐃᒪᙵᓂᒃ 2011 (422 ᓇᓄᐃᑦ, 95% ᓇᓗᖕᒋᒍᑦ: 38-467).

ᐃᓚᐅᓗᑎᒃ ᖃᐅᔨᓴᖅᓂᕐᓄᑦ ᖃᐅᔨᓴᕆᐊᖅᑐᑦ ᓇᓄᐃᑦ ᖃᑦᓯᐅᓂᖓᑦ, ᐊᖑᔪᒥᒃ ᖃᐅᔨᓴᖅᓂᖅ ᑲᒪᒋᔭᐅᓯᒪᔪᖅ ᕿᒥᕐᕈᓪᓗᑎᑦ ᐊᓯᔾᔨᕈᑏᑦ ᓇᓄᐃᑦ ᑎᒥᖓᑕ ᖃᓄᐃᓐᓂᖓᓄᑦ, ᐃᓅᒍᓐᓇᕐᓂᖓᓄᑦ ᐊᒻᒪᓗ ᕿᑐᕐᖏᐅᕈᓐᓇᕐᓂᖓᓄᑦ. ᐱᓪᓗᒋᑦ ᑎᒥᖓᑕ ᖃᓄᐃᓐᓂᖓᑦ, ᐊᓐᑎᐅᑎᒥ ᒥᓂᔅᑕ ᐱᑕᖃᒃᑲᐅᑎᒋᔪᓂᒃ ᐱᓴᕐᓯᓇᓱᐊᖅᑕ ᐊᒻᒪᓗ ᓇᐸᖅᑐᓯᓇᓱᐊᖅᑕ ᕿᒥᕐᕈᓚᐅᖅᑐᑦ ᐊᓯᔾᔨᕈᑎᓂᒃ 900ᓂᒃ ᓇᓄᕐᓂᒃ ᑲᒪᒋᔭᓂᒃ ᓯᕗᓂ ᓯᑯᖅᑎᓐᓇᒍ ᒫᓂ 1984-1986, 2000-2005, ᐊᒻᒪᓗ 2007-2009. ᑎᒥᖓᑕ ᖃᓄᐃᓐᓂᖓᓄᑦ ᓇᓕᓇᐃᖅᓯᒍᑦ (BCI), ᑐᙵᕕᒋᓪᓗᒋᑦ ᐆᑦᑐᖅᑕᐅᓂᖓᑦ ᓇᓄᐃᑦ ᑎᒥᑭᑕ ᑕᑭᓂᖓᑦ, ᓇᓗᓇᐃᖅᓯᓚᐅᖅᑐᑦ ᐱᐅᙱᓕᕐᓂᖓᓐᓂᒃ ᑎᒥᖓᑕ ᐃᓅᓐᓇᖓᓐᓂᒃ ᐊᓯᔾᔨᖅᑲᑎᒌᙱᑦᑐᓂ,

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕆᑎᖏᑦ

ᑭᓲᓂᖏᓐᓂ ᐊᒻᒪᓗ ᖁᑐᙱᑦᑐᕈᓐᓇᕐᓂᖏᓐᓂᒃ. ᓄᓇᕗᒥ, ᑎᒥᖏᑕ ᖃᓄᐃᓐᓂᖏᓐᓄᑦ ᓈᓴᐅᑎᑖᑦ (BCS) ᐊᙳᑕᐅᔪᓂᒃ ᓇᓄᕐᓂᒃ ᐅᖃᐅᑕᐅᓯᒪᔪᑦ ᓂᒋᐊᓂ ᑭᙵᓕᐅᑉ ᑕᓯᐅᖬᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᒥ ᓇᓄᕐᓂᒃ ᑕᐃᒪᙵᓂᒃ 2010. ᒪᑯᐊ BCSᖏᑦ 191 ᐊᖑᓇᓱᒃᑎᒧᑦ–ᐊᙳᑕᐅᔪᑦ ᓇᓄᐃᑦ ᖃᐅᔨᓴᕐᑕᐅᓚᐅᕐᑐᑦ ᐊᑯᓐᓂᖓᓂ 2010 ᐊᒻᒪᓗ 2017. ᓇᓄᐃᑦ ᐃᓚᐅᔪᑦ ᓄᓇᕗᒥ ᖃᐅᔨᓴᕐᓂᕐᒥ ᐱᔭᐅᓗᐊᕐᐸᓚᐅᕐᑐᑦ ᓱᑯᒥᒃ ᐅᑭᐅᒃᑯᑦ ᐊᒻᒪᓗ ᐅᑭᐊᖑᒃᑯᑦ. 92.7% ᐱᑕᖃᓚᐅᕐᑐᑦ BCS ᕿᓂᖓᓃᑦᑐᑎᒃ ᐊᒻᒪᓗ ᐱᐅᓂᖅᐅᓪᓗᑎᒃ, ᐅᑯᐊ 7.3% ᐃᓱᒪᒋᔭᐅᓪᓗᑎᒃ ᓴᓪᓘᒋᐊᖏᑕ ᐅᕝᕙᓘᓐᓃᑦ ᓴᓪᓕᕙᔾᔪᐊᕌᓘᒋᐊᖏᑕ.

ᓄᑖᖑᓂᑉᐹᑦ ᒥᒃᓴᐅᓴᒍᑏᑦ ᐃᓅᒍᓇᕐᓂᖏᓐᓂᒃ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓂᒋᐊᓂ ᓇᓄᖃᐅᕐᑐᒥ, ᑐᙵᕙᖃᕐᑐᑦ ᑲᒪᒋᔭᐅᓂᑯᓂᒃ–ᑕᑯᔭᐅᒃᑲᓂᕐᑐᓂᒃ ᓈᓴᐅᑎᓂᒃ ᓄᐊᑕᑦ ᐅᕙᙵᑦ 1984 ᐅᕗᖓ 2005, ᓇᓗᓇᐃᕐᓯᔪᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᕆᐊᖏᑕ ᐃᓅᒍᓇᕐᑐᑦ ᐃᓘᓐᓇᖏᓐᓂ ᐊᒡᕋᒍᖃᑎᑆᙱᑦᑐᓂ ᐊᒻᒪᓗ ᑭᓲᓂᖏᓐᓂᒃ ᑕᐃᒪᙵᑦ 1980ᑦ.

ᕿᒥᒃᑲᓂᖅ ᓇᓄᐃᑦ ᓅᑦᑕᕐᓂᖏᓐᓂᒃ ᑎᑎᖅᑲᓂᒃ, ᒪᑯᓇᙵᑦ ᓈᓚᒍᑎᓂᒃ–ᖁᖓᓯᕈᓖᑦ ᐊᒻᒪᓗ ᐊᖏᓇᓱᒃᑏᑦ–ᐊᙳᑕᖏᑦ ᓇᓄᐃᑦ, ᓇᓗᓇᐃᕐᓯᔪᑦ ᐃᒫᒃ ᐃᓘᓐᓇᕙᓚᑎᒃ ᓇᓄᐃᑦ ᑕᒫᓃᑉᐸᒋᐊᖏᑕ ᒫᓐᓇ ᐃᓕᓴᕆᔭᐅᒪᔪᒥ ᓂᒋᐊᓂ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᑦ ᑭᓪᓕᖓᓂ, ᐃᓛᒃ ᓅᑉᐸᒥᔫᓗᐊᑦ ᖃᓂᒋᖏᓐᓄᑦ ᓇᓄᖃᐅᕐᑐᓄᑦ ᒫᓂ ᐱᖓᓐᓇᖓᓂ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ (WH) ᐊᒻᒪᓗ ᐊᒥᒃᑐᖅᒨᑦ (FB), ᒫᓂᓪᓗᐊᑕᖅ ᓯᑯᖃᕐᑎᓪᓗᒍ. ᓯᑯᖃᕐᑎᓐᓇᒍ, ᓇᓄᐃᑦ ᐊᓚᒃᑲᐃᔪᑦ ᐊᒥᓱᑦ ᓅᐸᐸᕆᐊᖏᑕ ᓄᓇᒧᑦ, ᐃᓛᒃ ᒪᓕᑐᐃᓐᓇᕐᑐᒍ ᓯᑯᐃᕐᓂᖓ, ᓂᒋᐊᓂ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᐃᑦ ᐃᓛᓐᓂᒃᑯᑦ ᓄᓈᕐᐸᑦᑐᑦ ᐱᖓᓐᓇᖓᒧᑦ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ. ᓱᓕᑦᑕᐅᖅ, ᓯᕗᓪᓖᑦ ᕿᒥᒃᕈᒍᐃᑦ ᑎᑎᕋᕐᓯᒪᔪᓂᒃᕋ ᐱᓪᓗᒋᑦ ᓇᓗᓇᐃᒃᑯᓯᕐᑕᐅᒪᔪᑦ ᓇᓄᐃᑦ ᑭᖑᓂᐊᒍᑦ ᐊᙳᑕᐅᕙᑦᑐᑦ ᓇᓗᓇᐃᕐᓯᔪᑦ ᐃᒫᒃ ᑎᑭᒃᑐᒍ 10% ᓇᓄᐃᑦ ᐊᙳᑕᐅᔪᑦ ᓂᒋᐊᓂ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᐱᒋᐊᕐᕕᒃᑲᑦᑐᑦ ᒫᓐᙵᑦ ᐱᖓᓐᓇᖓᓂᒃ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ. ᕿᓚᒻᒥᐅᓂᖓᓄᑦ ᓄᓕᐅᕐᕕᖏᑕ, ᐃᓚᖃᕐᑐᒋᑦ ᓄᓇᙳᐊᑎᒍᑦ ᐅᖓᓯᓐᓂᖓᓂᒃ, ᐃᓱᒪᒋᔭᑦ ᐃᑲᔪᕆᐊᖏᑕ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᒻᒥᒃ ᐊᐅᖏᑎᒍᑦ ᐊᔾᔨᐅᙱᒍᑎᓂᒃ ᒪᑯᐊ ᓇᓄᐃᑦ ᔭᐃᒻᔅ ᐸᐃᒥ ᐃᓱᒪᒋᓪᓗᒋᑦ ᐊᓯᖏᑦ ᓇᒥᑐᐃᓐᓇᖅ ᐅᑭᐅᕐᑕᕐᑐᒥ.

ᑭᖑᓪᓕᕐᐹᒥᒃ, ᖃᐅᔨᓴᕐᓂᖅ ᐊᑐᕐᑐᒋᑦ ᐱᑕᖃᕋᔪᑦᑐᑦ ᑲᒪᒍᓯᐅᔪᑦ ᑎᑎᕋᕐᑐᒋᑦ ᐊᓯᔾᔨᑕᕐᓂᖏᑦ ᓯᑯᒥ ᓇᔪᖓᖏᑕ ᐃᓘᓐᓇᖏᓐᓂ 19 ᓄᓇᕐᔪᐊᖅᒥ ᓇᓄᖃᐅᕐᑐᓂ (1979-2014), ᖃᐅᔨᓇᓚᐅᕐᑐᑦ ᐃᒫᒃ ᐃᓘᓐᓇᑎᒃ 19 ᓇᓄᖃᐅᕐᑐᑦ ᐊᑐᕐᓯᒪᒋᐊᖏᑕ ᕿᓚᒻᒥᐅᓂᖅᓴᖅ ᐅᐱᕐᖓᖅᑯᑦ ᓱᑰᑉ ᒥᑭᓪᓕᕙᓪᓕᐸᓐᓂᖓᓂᒃ, ᑭᖑᕙᕐᑐᒥᒃ ᐅᑭᐊᖑᒃᑯᑦ ᓱᑯᕙᓐᓂᖓᓂᒃ, ᐊᒻᒪᓗ ᒥᑭᓪᓕᕙᓪᓕᕐᑐᑎᒃ ᐊᐅᔭᒃᑯᑦ ᓯᑯᖃᕐᑐᑦ ᐊᓂᒍᕐᑐᓂ 40ᓂ ᐊᕐᕌᒍᓂ. ᐃᓱᒪᒋᓪᓗᒋᑦ ᐊᓯᖏᑦ ᓇᓄᖃᐅᕐᑐᑦ, ᓂᒋᐊᓂ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᒥ, ᑕᒪᓐᓇ ᐊᑉᐸᓯᓐᓂᕐᐹᖅ ᓂᒋᐊᓂ ᐃᓘᓐᓇᖏᓐᓂᒃ ᓄᓇᕐᔪᐊᖅᒥ ᓇᓄᖃᐅᕐᑐᓂᒃ, ᐱᑕᖃᕐᑐᑦ ᐊᑯᓂᐅᙱᓂᕐᐹᒥᒃ ᓱᑯᖃᕐᐸᓐᓂᖓ (ᐃᒫᓪᓗᐊᕙᓚᒃ 210 ᐅᓪᓗᐃᑦ ᖁᓛᓂ 15% ᓱᑯᖃᕐᐸᖓᓐᓂᖓᓂᒃ ᐊᑐᕐᑕᑦ ᑎᑎᕋᕐᑎᓄᑦ). ᑕᐃᒪᓕ ᓱᑯᐃᕐᐸᓐᓂᖓ ᓂᒋᐊᓂ ᑭᙵᓪᓕᐅᐸ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᒥ ᐊᖏᔫᓯᒪᔫᓗᐊᖅ (ᐊᓯᔾᔨᕐᓂᖓ ᐅᐱᕐᖓᖅᑯᑦ ᓱᑰᑉ ᒥᑭᓪᓕᕙᓪᓕᐸᓐᓂᖓ: -3.1 ᐅᓪᓗᐃᑦ ᖁᓚᓂ ᐊᕐᕌᒍᓂ; ᐊᓯᔾᔨᕐᓂᖓ ᐅᑭᐊᖑᒃᑯᑦ ᓱᑯᕙᓐᓂᖓᑕ: +4.1 ᐅᓪᓗᐃᑦ ᖁᓚᓂ ᐊᕐᕌᒍᓂ; ᐊᓯᔾᔨᕐᓂᖓ ᐊᐅᔭᒃᑯᑦ ᓱᑯᖃᕐᓂᖓᑕ: -11.4% ᖁᓚᓂ ᐊᕐᕌᒍᓂ), ᓱᑲᓐᓂᖓ ᓱᑯᐃᕐᓂᖓᑕ ᐊᖏᓗᐊᕐᓯᒪᙱᑦᑐᖅ ᒪᑯᓇᖓᑦ ᐃᓚᖏᑦ ᐊᓯᖏᑦ ᓇᓄᖃᐅᕐᑐᑦ.

Re-Assessment of the Southern Hudson Bay Polar Bear Subpopulation

Report to Southern Hudson Bay Polar Bear Subpopulation Advisory Committee from the Southern Hudson Bay Polar Bear Technical Working Group

September 11, 2019

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Executive Summary

This executive summary is intended to provide to non-specialist audiences an overview of the Southern Hudson Bay Polar Bear Subpopulation Technical Working Group re-assessment report. Further details, including citations and methodological details are documented in the full report.

The Southern Hudson Bay (SH) polar bear subpopulation includes much of eastern and southern Hudson Bay and James Bay, as well as large expanses of coastal Ontario and Québec and islands located within the bays. Management authority for the SH subpopulation is a shared responsibility of federal, provincial and territorial governments, wildlife management boards (WMBs) and similar entities, and land claims organizations that represent Indigenous rights holders. Regional and local Indigenous organizations and associations also play important roles as bodies that facilitate consultation, make management recommendations, and assist with the allocation and enforcement of harvest limits.

Current status and abundance

The current estimate of abundance for the SH subpopulation is 780 polar bears (95% CI: 590–1029). The Canadian Polar Bear Technical Committee's (PBTC) 2019 assessment of the subpopulation was:

Status and trend assessment type	Short definition	Assessment result	Primary rationale
Historic trend	Change in abundance since the signing of the *Agreement on the Conservation of Polar Bears* (1973)	Likely reduced	Comparison of recent estimate of abundance to information collected in the 1980s and 1990s.
Indigenous Knowledge (IK)	Knowledge generated from the cultural practices, lived experiences and traditions of local and Indigenous peoples	Stable in James Bay; Likely increased in east Hudson Bay	Interviews and consultations with Indigenous people describing changes over time in the number of polar bears observed, polar bear behavior, and other factors
Recent trend	Changes in abundance over the last 15 years	Likely declined	Comparison of the most recent estimate of abundance to the previous estimate collected in 2011/2012, as well as information about declines in polar bear body condition and survivorship in association with an increasing ice-free season.
Future trend	Anticipated direction in abundance over the next 10 years	Likely decline	Documented declines in body condition and survival rate in association with an increasing ice-free season.

User-to-user meetings, which were held in 2011 and 2014, resulted in voluntary agreements to better manage polar harvest in the SH subpopulation (see Appendices A and B). Participants in these meetings included harvesters from affected communities, as well as representatives from the governments, wildlife management boards, and land claims organizations with co-management responsibility. Significant compromises were made by respective Indigenous rights holders.

The 2011 meeting, which was held in Inukjuak, QC, was called in response to a high removal of polar bears by Inuit hunters during the 2010/2011 hunting season (105 polar bears, including 30 by Nunavut Inuit, 73 by Nunavik Inuit, 1 by Eeyou Istchee Cree), and associated concern raised by domestic and international parties about the sustainability of harvest. The Inukjuak meeting resulted in a voluntary agreement that was in place for the 2011/2012 to 2013/2014 hunting seasons. The 2014 meeting, which was held in Ottawa, resulted in an updated voluntary agreement that was in place for the 2014/2015 and 2015/2016 hunting seasons.

Since 2016/2017, harvest limits have been based on the older, out-of-date estimate of 943 polar bears rather than on the current estimate of 780 polar bears. The limits are as follows:

- Nunavut Settlement Area: 25 (Nunavut Inuit)
- Nunavik Marine Region: 23 (Nunavik Inuit, with at least one polar tag allocated to the Cree of Eeyou Istchee for harvest within the Inuit-Cree overlap area).

At present, there are no take limits in the Eeyou Marine Region south of the Inuit-Cree overlap area, which is also part of the Nunavik Marine Region, or in onshore areas of Québec. Under Treaty 9, there is no formal harvest limit for Ontario Cree; however a voluntary limit of 30 bears per year that could be sealed for trade was established in 1976 through an informal agreement between the Ontario government and the coastal Cree First Nation communities. Since the listing of polar bear as a Threatened species under the Ontario Endangered Species Act in 2009 the sale of polar bear parts within Ontario has been prohibited.

In both the Nunavut Settlement Area and the Nunavik Marine Region, existing harvest limits were established assuming a sex selective harvest of two males for every female and a flexible quota system to adjust for over-harvest (subtract from base allocation the next year) or under-harvest (accumulation of credits for use in future years). Sex-selective harvesting was implemented to allow the maximum possible number of bears to be removed sustainably each year, recognizing that the removal of breeding-age female polar bears has a larger effect on population dynamics than the removal of male polar bears in most situations.

According to information provided to PBTC, the most recent 5-year (2013/14 – 2017/18), 3-year (2015/2016 – 2017/2018), and current year (2017/2018) estimates of mean harvest in the subpopulation have been 36.4, 33.7, and 33 bears, respectively. These estimates correspond to a 3.5% to 3.9% removal rate relative to the old subpopulation estimate of abundance. Harvest at a similar level moving forward would represent an annual removal of 4.2% to 4.7% of the current subpopulation estimate.

In Nunavut, the Inuit community of Sanikiluaq is the only one that harvests within the SH subpopulation. Harvest reporting is believed to approach 100%. In Québec, there are three Nunavik Inuit communities (Inukjuak, Umiujaq, and Kuujjuaraapik) and three coastal Cree communities (Whapmagoostui, Waskaganish, and Chisasibi) that potentially harvest from this subpopulation. Although there is no legal requirement for beneficiaries of the James Bay and Northern Québec Agreement to report human-caused polar bear mortalities, the Québec Government has been compiling harvest reports and issuing tags since 1985. The proportion of the harvest reported to the Québec Government is currently unknown, but is believed to be less than 100%. In Ontario, there are five coastal Cree communities that have traditionally harvested polar bears from the SH subpopulation [Fort Severn, Winisk (Peawanuk) Attawapiskat, Fort Albany, and Kashechewan), and one community (Moosonee/Moose Factory) that has occasionally reported defense of life and property kills. The proportion of the harvest that is reported to the Government of Ontario is currently unknown.

Over the past ten years, the following harvest limits have been in place and the following harvest levels (H) reported to wildlife management officials:

Hunting season	Nunavut†		Québec‡		Ontario	
	Limit	H	Limit	H	Limit	H
2008/2009	TAH = 25	26	None	9	None[a]	3
2009/2010	TAH = 25	25	None	36	None[a]	1
2010/2011	TAH = 30	30	None	74	None[a]	0
2011/2012	TAH = 25	25	VA = 30	22	None[b]	4
2012/2013	TAH = 25	26	VA = 30	33	None[b]	2
2013/2014	TAH = 25	27	VA = 30	11	None[b]	0
2014/2015	VA = 20	20	VA = 23	22	None[c]	1
2015/2016	VA= 20	20	VA = 22	19	None[c]	2
2016/2017	TAH = 25	22	TAT=23	7	None[a]	2
2017/2018	TAH = 25	28	TAT=23	5	None[a]	0

TAH: Total Allowable Harvest; TAT: Total Allowable Take; VA: harvest limit determined by voluntary agreement among users. See full report for details about harvest limits, as well as areas where limits have been in place.

[a]A voluntary quota of 30 bears was established in 1976 through an informal agreement between the Ontario Government and coastal Cree First Nation communities, whereby a maximum of 30 hides would be sealed in any year. In September, 2009, polar bears were listed under Ontario's Endangered Species Act, which prohibits the sale of polar bear parts within Ontario. Thus, hides are no longer sealed in Ontario.

[b]A voluntary limit of 5 bears was agreed upon by the coastal Cree communities of Ontario in attendance at the 2011 Inukjuak meeting, however not all communities were present.

[c]A voluntary limit of 3 bears to be split between Ontario and Quebec Cree, with alternating division per season starting with 2 for Ontario Cree in 2014/2015 was agreed upon by the coastal Cree communities of Ontario in attendance at the 2014 Ottawa meeting, however not all communities were present.

Indigenous Knowledge

In 2018, the Nunavik Marine Region Wildlife Management Board completed a comprehensive polar bear Inuit Knowledge study. Key findings included: (a) an increase in the number of polar bears observed by Nunavik Inuit since the 1970s; (b) a wider distribution of polar bears, including the use of inland areas; and (c) polar bear condition described as very healthy. With regard to management, a frequently expressed view was that traditional stewardship practices are sufficient for conservation and that the introduction of a quota to limit polar bear hunting is unnecessary. Common stewardship practices include hunting only based on need and not wasting any of the animal killed, not hunting polar bears during the summer, and not harvesting cubs or known mothers.

Nunavut Inuit Qaujimajatuqangit (IQ), shared by community members from Sanikiluaq at the November 2018 Nunavut Wildlife Management Board public hearing to consider the Nunavut Polar Bear Co-Management Plan, emphasized that the polar bear population is increasing rather than decreasing in Nunavut, including in the area around Sanikiluaq. Participants also stated that climate change will not cause the disappearance of polar bears. According to IQ, it is normal for the polar bear population to increase and decrease in a cycle.

A study documenting the knowledge of Cree land users, in the northern Eeyou Marine Region, conducted by the Cree Nation Government, Eeyou Marine Region Wildlife Board and Cree Trappers' Association, is currently being finalized. Preliminary results include expressions of concern about an increase in the relative abundance of polar bears in the Eeyou Marine Region and a growing number of human-polar bear interactions. Climate change, and more specifically changes in sea ice dynamics in Hudson Bay and James Bay, were mentioned as potential causes for the observed changes.

Scientific Assessment

Results from two capture-recapture studies conducted mainly along the Ontario coastline of Hudson Bay suggest that polar bear abundance was largely unchanged between 1984–1986 and 2003–2005. Following an analysis of bears captured on Akimiski Island in James Bay during 1997 and 1998, the total SH subpopulation was estimated by the PBTC to number between 900-1000 bears for management purposes.

Aerial surveys, conducted in 2011/2012 and 2016, resulted in estimates of abundance of 943 polar bears (95% CI: 658–1350) and 780 polar bears (95% CI: 590–1029), respectively. This change equates to a 17% decline in abundance. Although the 95% confidence intervals for the two estimates overlap, an 18% decline in point estimates of abundance was noted over the same time period in the neighbouring Western Hudson Bay (WH) polar bear subpopulation. The simultaneous declines in SH and WH were cited by PBTC as an additional line of evidence to suggest that polar bear numbers in the SH subpopulation had likely declined. Estimates of the proportion of yearling polar bears in the SH subpopulation also declined, from 12% of in 2011 to 5% in 2016, whereas the proportion of cubs remained similar (16% in 2012 vs. 19% in 2016). These results suggest there was low survival of cubs to the yearling age class in 2015. A supplementary aerial survey, conducted in 2018, covering a high density portion of the subpopulation (Ontario coastline and Akimiski Island), was used to examine whether the 2016 study results were indicative of a trend. Results demonstrated variable yearling proportions and a slightly lower abundance of bears in re-surveyed portions of the coastal area in 2018 (249 bears, 95% CI: 230 – 270) compared with 2016 (269 bears, 95% CI: 244 – 297) and significantly lower abundance than in 2011 (422 bears, 95% CI: 381 – 467).

In addition to studies assessing polar bear abundance, considerable research has been conducted to evaluate changes in polar bear body condition, survival rates and reproduction. With respect to body condition, the Ontario Ministry of Natural Resources and Forestry examined trends for 900 bears captured on shore during the ice-free period in 1984-1986, 2000-2005, and 2007-2009. A body condition index (BCI), based upon measurements of a bear's mass relative to body length, indicated a decline in condition for all age, sex and reproductive classes. In Nunavut, body condition scores (BCS) of harvested bears have been reported for the SH subpopulation bears since 2010. The BCS of 191 hunter-harvested polar bears was examined between 2010 and 2017. Bears included in the Nunavut study were primarily taken on the sea ice during winter and spring. 92.7% had a BCS of average and better, while 7.3% were deemed skinny or very skinny.

The most up-to-date estimates of survival in the SH subpopulation, which are based upon capture-recapture data collected from 1984 through 2005, indicate substantial declines in survival among all age and sex classes since the 1980s.

Analysis of bear movement data, from radio-collared and hunter-harvested bears, indicate that most bears remain within the currently recognized SH subpopulation boundary, although regular movements into adjoining subpopulations in Western Hudson Bay (WH) and Foxe Basin (FB) occur, primarily during the on ice period. During the ice-free period, bears demonstrate a high degree of fidelity to onshore areas, though depending on the patterns of ice breakup, SH bears occasionally come ashore in WH. Further, preliminary analysis of data on marked bears that are subsequently harvested suggests that up to 10% of the bears harvested in SH originate in WH. Small mating season home ranges, combined with geographic isolation, is believed to have contributed to potential genetic distinctiveness among polar bears in James Bay compared to other locations across the Arctic.

Finally, a study using a standardized methodology to document trends in sea ice habitat for all 19 global polar bear subpopulations (1979-2014), found that all 19 subpopulations have experienced earlier spring sea ice retreat, later fall sea ice formation, and reduced summer sea ice areas of coverage over the last four decades. Relative to other polar bear subpopulations, the SH subpopulation, which is the most southerly of all global subpopulations, has one of the shortest duration ice seasons (approximately 210 days above the 15% sea ice coverage threshold used by the authors). While the rate of sea ice loss in the SH subpopulation has been extensive (change in spring ice retreat: -3.1 days per decade; change in fall ice advance: +4.1 days per decade; change in summer sea ice area: -11.4% per decade), the rate of loss has been less extreme than in some other subpopulations.

Report

1. Background

1.1. Southern Hudson Bay Polar Bear Subpopulation Boundary

The boundary of the Southern Hudson Bay (SH) polar bear subpopulation was established based on observed movements of marked and collared polar bears (Jonkel et al. 1976, Kolenosky and Prevett 1983, Kolenosky et al. 1992, Obbard and Middel 2012, Middel 2013). It includes much of eastern and southern Hudson Bay and James Bay, as well as large expanses of coastal Ontario and Québec up to 120 km inland and islands located within the bays (Kolenosky and Prevett 1983, Obbard and Walton 2004, Obbard and Middel 2012) (Figure 1).

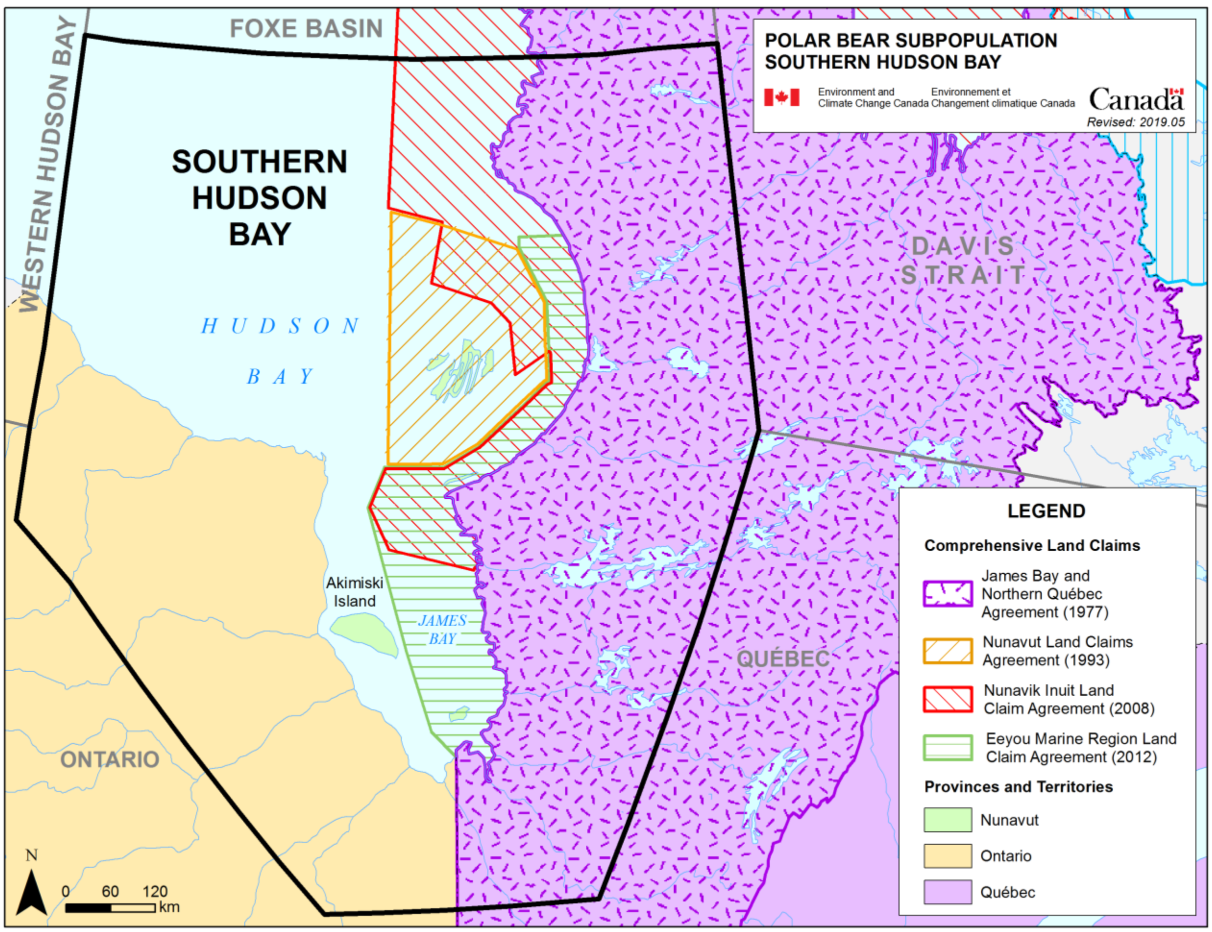

***Figure 1**. Southern Hudson Bay Polar Bear Subpopulation boundary and associated land claim areas, and provincial and territorial boundaries.*

1.2. Management Authority

Management authority for SH subpopulation polar bear is a shared responsibility of federal, provincial and territorial governments, wildlife management boards (WMBs)/similar entities, and land claims organizations that represent Indigenous rights holders. Regional and local Indigenous organizations and associations also play important roles as bodies that facilitate consultation, make management recommendations, and assist with the allocation and enforcement of harvest limits.

Table 1 lists the organizations with management responsibility in Southern Hudson Bay, as well as the treaties/land claims agreements from which mandates are derived. In locations where WMBs have been established WMB decisions for Total Allowable Take (TAT) / Total Allowable Harvest (TAH) of polar bear are forwarded to government Ministers, who have the authority to accept or reject initial board decisions, and to accept, reject or vary final decisions of the boards. Ministers also have the responsibility to implement final decisions. The Hunting, Fishing and Trapping Coordinating Committee (HFTCC) is not a decisional body for polar bear, but can recommend a TAT to the Québec government Minister, who has the discretion to act upon such recommendation, in accordance with the required consultations.

Table 1. *Management partners involved in polar bear harvest decision-making for the Southern Hudson Bay polar pear subpopulation and their current decision-making relationships.*

Agreement or Treaty	Area of Application	Wildlife Management Board or Similar Entity	Government Authority	Land Claims Organization
Nunavik Inuit Land Claims Agreement (NILCA)[1,2]	Nunavik Marine Region	Nunavik Marine Region Wildlife Management Board (NMRWB)	Canada (offshore) Nunavut (islands)	Makivik Corporation
Nunavut Land Claims Agreement (NLCA)	Nunavut Settlement Area	Nunavut Wildlife Management Board (NWMB)	Nunavut	Nunavut Tunngavik Inc.
Eeyou Marine Region Land Claims Agreement (EMRLCA)[2]	Eeyou Marine Region	Eeyou Marine Region Wildlife Management Board (EMRWB)	Canada (offshore) Nunavut (Islands)	Cree Nation Government
James Bay and Northern Québec Agreement (JBNQA)	Mainland of Québec	Hunting, Fishing and Trapping Coordinating Committee (HFTCC)	Québec	Makivik Corporation Cree Nation Government
Treaty 9	Mainland of Ontario	not applicable	Ontario	individual Cree First Nations, Muschkegowuk Council

[1] A reciprocal arrangement between Nunavik Inuit and Nunavut Inuit identifies Areas of Equal Use and Occupancy (AEUO) within the Nunavik Marine Region. Within the boundaries of the Southern Hudson Bay Polar Bear Subpopulation, one such AEUO encompasses islands situated between Umiujaq, QC and Sanikiluaq, NU. Until a formal process to govern wildlife management within the AEUO is established the NWMB retains exclusive jurisdiction over this area but the NWMB's membership is varied to allow for Nunavik Inuit representation through the appointment of members by Makivik (NILCA Part 27.6).

[2] The NILCA and EMRLCA incorporate an overlap agreement that specifies three zones: a Cree Zone, a Joint Zone, and an Inuit Zone. Throughout the overlap area, the Nunavik Inuit and the Crees of Eeyou Istchee have the same rights respecting the harvest of wildlife. For the Inuit Zone, the NMRWB maintains wildlife management responsibilities, but a Cree Nation Government observer is entitled to replace a Makivik appointed board member during any vote. For the Joint Zone, wildlife management decisions are to be made jointly and equally by the NMRWB and EMRWB. Within the Cree Zone, the EMRWB maintains wildlife management responsibilities, but a Makivik appointed observer is entitled to replace a Cree board member during any vote.

2. Canada's Polar Bear Technical Committee Assessment of Status and Trend

The Polar Bear Technical Committee (PBTC) is composed of individuals who have scientific or Indigenous Knowledge of polar bear biology and habitat and are appointed by the jurisdictions, management boards, or agencies that have legal responsibility for polar bear management in Canada. The PBTC meets annually to review scientific and Indigenous Knowledge necessary to meet defined management needs in support of Canada's national and international conservation responsibilities under the 1973 *Agreement on the Conservation of Polar Bears*. The PBTC helps facilitate coordination of research activities among Canadian jurisdictions that have polar bears, as well as the United States and Greenland for those subpopulations that are shared between Canada and these jurisdictions. The PBTC provides technical advice and recommendations to the Polar Bear Administrative Committee (PBAC), as required, on (1) design, collaboration, and conduct of polar bear research in Canada; (2) harvest and population trends; and, (3) the need for management actions.

One of the key outputs of the PBTC is an annual status assessment report on Canadian polar bear subpopulations, including harvest, based on scientific information and Indigenous Knowledge provided by member agencies.

2.1 Most Recent PBTC Status Assessment (2019)

The most recent status assessment by the PBTC of the SH subpopulation occurred at the Committee's 2019 meeting held in Edmonton, 5-7 February. In the absence of new scientific information or Indigenous Knowledge that would alter the outcome of the PBTC's review, the status assessment remained unchanged from 2018. The accepted current estimate of abundance for the SH subpopulation is 780 bears (95% CI: 590–1029), which was derived from an aerial survey flown in 2016 using mark–recapture distance sampling and double-observer protocols (Obbard et al. 2018).

<u>Trends in subpopulation abundance</u>

The PBTC assessed the historical trend in abundance of the SH subpopulation to be "likely reduced". This is an assessment of change in abundance that a subpopulation may have experienced since the signing of the 1973 *Agreement on the Conservation of Polar Bears* (1973), which led to current management practices and research, to the present estimate. The PBTC based this assessment on earlier subpopulation estimates conducted in the 1980s and 1990s (Kolenosky et al. 1992, Obbard et al. 2007, Obbard 2008).

The PBTC assessed the recent trend in abundance to be "likely declined". This is an assessment of change in abundance over the past 15 years. A 17% decline in point estimates of abundance between a 2011-2012 aerial survey (943 bears, 95% CI: 658–1350, Obbard et al. 2015) and the 2016 aerial survey was documented. Although there had been previously documented declines in survival and body condition related to changes in sea ice (Obbard 2008, Obbard et al. 2016), the 2016 aerial survey was the first instance of a documented decline in the numbers of bears.

A similar decline in abundance of the WH subpopulation (18% decline), over the same time period (Dyck et al. 2017), was considered an additional line of evidence suggesting a larger ecosystem change maybe occurring. As a result, the PBTC changed its assessment of historic, recent, and future trend to “likely reduced”, “likely declined”, and “likely decline”, respectively.

The PBTC’s Indigenous Knowledge assessment of the SH subpopulation is that it is “stable” in James Bay and “likely increased” in east Hudson Bay. The assessment was based upon information from a number of sources, including a recently completed report by the Nunavik Marine Region Wildlife Board (NMRWB 2018).

Trends in harvest

Due to differences in the harvest management systems in Nunavut, Ontario, and Québec, it is not possible to determine an exact number of the potential, annual allowable removal from the subpopulation. The most recent 5-year (2013/14 – 2017/18), 3-year (2015/16 – 2017/18), and current year (2017/18) mean harvest levels have been reported as 36.4, 33.7, and 33 bears, respectively. These removal levels correspond to removal rates equating to 3.5% to 3.9% of 2011-2012 estimate of subpopulation abundance. Harvest at similar levels moving forward would represent an annual removal rate of 4.2% to 4.7% of the current subpopulation estimate.

2.2 Previous PBTC Assessments

Over the past 20 years, the PBTC has made a number of changes to both the content and methods used in the assessment and presentation of subpopulation status. Thus, it is not practical to make direct comparisons of the annual status assessments. However, there is consistent content that can be compared. From 1998-2017, the PBTC has used varying numbers between 900 and 1000 bears as the estimate of abundance for the SH subpopulation (e.g., 900, 943, 951, 900-1000, 1000). All were based on scientific studies (Kolenosky et al. 1992, Obbard et al. 2007, Obbard 2008, Obbard et al. 2015), although some of the earlier estimates were subsequently adjusted upwards, based on professional judgement, for management purposes to account for unsurveyed areas (James Bay, Québec coastal areas). Over this time, both historic and recent trend, when assessed, were considered to be stable.

There has been no change in the documented Indigenous Knowledge assessment of the SH subpopulation.

3. Current and previous harvest limits

3.1 Current harvest limits

Current harvest limits are summarized in Table 2.

Table 2*. Summary of current management of polar bear harvest (2018-2019 hunting seasons) by area within the Southern Hudson Bay subpopulation management unit (adapted from Lunn et al. 2018).*

	Area				
Management consideration	Nunavut Settlement Area	Nunavik Marine Region†	Eeyou Marine Region‡	Québec (onshore region)	Ontario (onshore coastal region)
Hunting season	July 1 – June 30	July 1 – June 30 [6]	No restriction	September 1 – May 31 [5]	
Who can hunt	Nunavut Inuit with a tag [1]	Nunavik Inuit and Eeyou Istchee Cree (within NMR/EMR overlap area)	Eeyou Istchee Cree	Nunavik Inuit and Cree	Treaty 9 rights holders in coastal communities (Cree)
Harvest limit (2018-2019)	TAT of 25 [2]	TAT of 23 (including 1 bear for Cree) [6]	No take limits since expiry of voluntary agreement in November 2016	No take limits since expiry of voluntary agreement in November 2016	None[7]
Protection for females and cubs	Yes [3]	Yes [6]	No	Yes [5]	Yes [8]
Protection for bears in dens	Yes [4]	Yes [6]	No	Yes [5]	Yes [8]

† Includes the "Inuit Zone" and the "Joint Inuit/Cree Zone" of the Inuit/Cree Offshore Overlapping Interests Area

‡ Includes only the "Cree Zone" of the Inuit/Cree Offshore Overlapping Interests Area

[1] *Nunavut Wildlife Act*, s.18(1); [2] *Nunavut Wildlife Act,* s.120; [3] *Nunavut Wildlife Act*, s.195, r. 9(2) - Regulatory provisions on harvesting; [4] *Nunavut Wildlife Act*, s.195, r. 9(3) - Regulatory provisions on harvesting;[5] Hunting season, protection of mothers and cubs and protection of bears in dens is not legally mandated, but is regulated in accordance with a voluntary agreement between the Gouvernement du Québec and the Inuit (Anguvigak - Nunavik Hunters, Fishers and Trappers' Association, 1984); [6] According to Nunavut and ECCC Ministers' decision in October 2016, but currently not enforced by legislation. [7]A voluntary quota of 30 bears was established in 1976 through an informal agreement between the Ontario Government and coastal Cree First Nation communities, whereby a maximum of 30 hides would be sealed in any year. In September, 2009, polar bears were listed under Ontario's Endangered Species Act, which prohibits the sale of polar bear parts within Ontario. Thus, hides are no longer sealed in Ontario. [8]Protection provided under Endangered Species Act. There is no special protection provided to females and cubs or bears in dens in relation to Treaty 9 rights holders from coastal communities.

3.2 Previous harvest limits and reported harvest

Table 3 summarizes harvest limits and reported harvest levels in Nunavut, Québec and Ontario since the 1994/1995 hunting season. Additional commentary, and information about harvest before the 1994/1995 hunting season is provided for the respective jurisdictions in sections that follow.

Table 3*. Polar bear harvest according to provincial/territorial jurisdiction for the Southern Hudson Bay (SH) polar bear subpopulation from the 1994/1995 to 2017/2018 hunting season. Limit denotes the Total Allowable Harvest (TAH), Total Allowable Take (TAT), or Voluntary Agreement (VA) limit. H denotes the total number of polar bears reported as having been harvested or killed in defense of life and property situations each year.*

Hunting season	Nunavut†		Québec‡		Ontario	
	Limit	H	Limit	H	Limit	H
1994/1995	TAH = 25	25	None	3	None[1]	2
1995/1996	TAH = 25	25	None	15	None[1]	11
1996/1997	TAH = 25	25	None	19	None[1]	3
1997/1998	TAH = 25	24	None	10	None[1]	11
1998/1999	TAH = 25	25	None	14	None[1]	3
1999/2000	TAH = 25	25	None	16	None[1]	5
2000/2001	TAH = 15	8	None	6	None[1]	7
2001/2002	TAH = 25	25	None	18	None[1]	9
2002/2003	TAH = 25	25	None	6	None[1]	8
2003/2004	TAH = 25	25	None	11	None[1]	8
2004/2005	TAH = 25	25	None	0	None[1]	2
2005/2006	TAH = 25	25	None	6	None[1]	4
2006/2007	TAH = 25	25	None	10	None[1]	3
2007/2008	TAH = 25	25	None	4	None[1]	5
2008/2009	TAH = 25	26	None	9	None[1]	3
2009/2010	TAH = 25	25	None	36	None[1]	1
2010/2011	TAH = 30	30	None	74	None[1]	0
2011/2012	TAH = 25	25	VA = 30	22	None[2]	4
2012/2013	TAH = 25	26	VA = 30	33	None[2]	2
2013/2014	TAH = 25	27	VA = 30	11	None[2]	0
2014/2015	VA = 20	20	VA = 23	22	None[3]	1
2015/2016	VA= 20	20	VA = 22	19	None[3]	2

2016/2017	TAH = 25	22	TAT=23	7	None[1]	2
2017/2018	TAH = 25	28	TAT=23	5	None[1]	0

† In 2014/2015 Inuit in Sanikiluaq voluntarily reduced their harvest quota to 20 polar bears (hence the change to VA = 20 in 2014/2015). In 2016/2017 Sanikiluaq reverted the TAH that was established by the NWMB before the voluntary reduction.

‡ The TAT that has been in place since 2016/2017 applies only to the Nunavik Marine Region, including the "Inuit Zone" and the "Joint Inuit/Cree Zone" but excluding the "Cree Zone" of the Inuit/Cree Offshore Overlapping Interests Area. There is no TAT in force on the remaining portion of the Eeyou Marine Region nor on the mainland of Québec.

[1]A voluntary quota of 30 bears was established in 1976 through an informal agreement between the Ontario Government and coastal Cree First Nation communities, whereby a maximum of 30 hides would be sealed in any year. In September, 2009, polar bears were listed under Ontario's Endangered Species Act, which prohibits the sale of polar bear parts within Ontario. Thus, hides are no longer sealed in Ontario.

[2]A voluntary limit of 5 bears was agreed upon by the coastal Cree communities of Ontario in attendance at the 2011 Inukjuak meeting, however not all communities were present.

[3]A voluntary limit of 3 bears to be split between Ontario and Quebec Cree, with alternating division per season starting with 2 for Ontario Cree in 2014/2015 was agreed upon by the coastal Cree communities of Ontario in attendance at the 2014 Ottawa meeting, however not all communities were present.

3.2.1 Nunavut

Sanikiluaq is the only Nunavut community that harvests from the SH subpopulation. Harvest reporting is believed to approach 100%. Between 1970 and 2018 there have been 1108 polar bears reported as harvested (Source: Nunavut polar bear data base). The proportion of the harvest comprised of males during this time has averaged 0.66 (range: 0.5 – 0.84) (i.e., 2 males for every 1 female). In general, the community has adhered strictly to its TAH (see Figure 2).

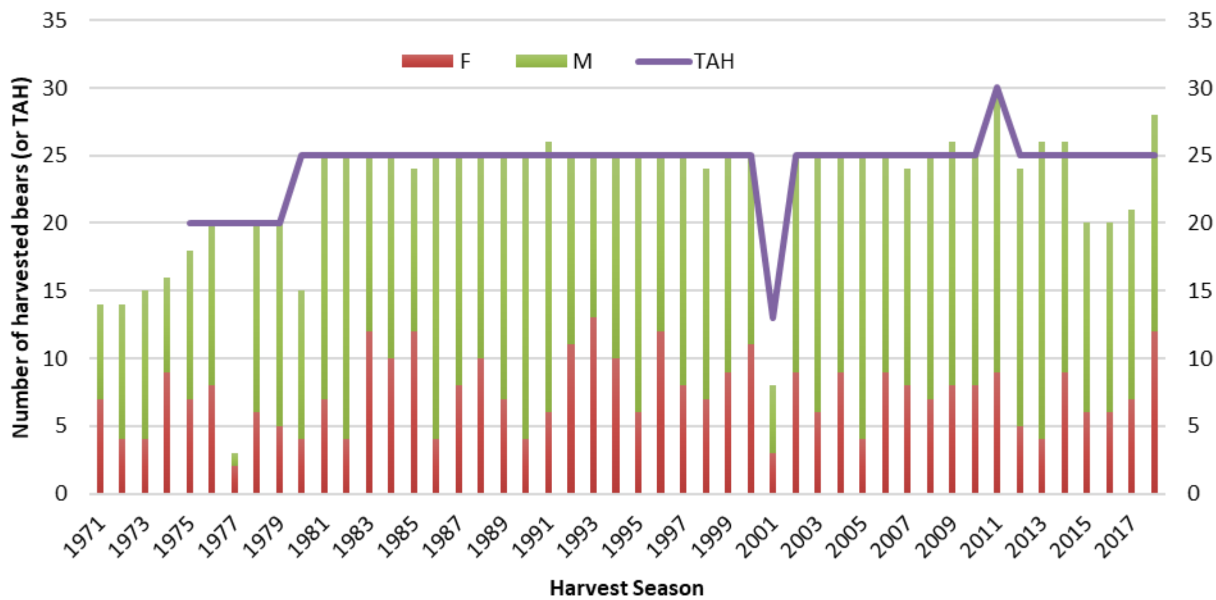

Figure 2. *Sanikiluaq polar bear harvest by sex between 1970/1971 and 2017/2018. During this time, harvest has been at or below the TAH in nearly all years. In 2010/2011, the HTO applied credits to increase their TAH as per their flexible quota system. In 2017/2018, removals exceeded TAH due to defense of life and property kills***.**

3.2.2 Québec-EMR-NMR

Although there is no legal requirement for beneficiaries of the James Bay and Northern Québec Agreement to report human-caused polar bear mortalities in Québec, the Québec Government has been compiling harvest reports and issuing tags since 1985 to allow hunters to sell and export their polar bear hides, pursuant to provincial regulations, as well as internationally under the *Convention of International Trade in Endangered Species of Wild Fauna and Flora* (CITES), which Canada implements through the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA).

The proportion of the actual harvest being reported is currently unknown in Québec. It is, however, likely that there is a link between the probability of reporting polar bear harvest and the harvester’s interest to sell the hide, which is in turn influenced by the market price of polar bear hides. The existence of voluntary agreements, establishing maximum annual take for the various harvesters of the SH subpopulation between the 2011/12 and 2016/17 harvest seasons, as well as the implementation of a Total Allowable Take (TAT) for the 2017/2018 hunting season may also have influenced the reporting rates. Table 4 presents reported harvest levels in Québec categorized according to community.

Table 4. *Reported polar bear harvest within the Southern Hudson Bay polar bear subpopulation, according to Québec community, since the 1985/1986 to 2017/2018 hunting season. TAT denotes a Total Allowable Take determined by the relevant Wildlife Management Boards (NMRWB and EMRWB). VA denotes a harvest limit determined by a voluntary agreement.*

Hunting season	Harvest limit	Inukjuak†	Umiujaq†	Kuujjuarapik†	Whapmagoostui‡	Waskaganish‡	Chisasibi‡
1985/1986	None	11	0	2	0	0	0
1986/1987	None	12	0	0	0	0	0
1987/1988	None	9	0	2	0	0	0
1988/1989	None	45	0	0	0	0	0
1989/1990	None	36	0	4	0	0	0
1990/1991	None	15	1	0	0	0	0
1991/1992	None	12	0	5	0	0	0
1992/1993	None	17	0	0	0	0	0
1993/1994	None	11	0	1	0	0	0
1994/1995	None	2	0	1	0	0	0
1995/1996	None	11	1	3	0	0	0
1996/1997	None	16	0	2	0	1	0
1997/1998	None	9	0	1	0	0	0
1998/1999	None	14	0	0	0	0	0
1999/2000	None	14	1	1	0	0	0
2000/2001	None	5	1	0	0	0	0
2001/2002	None	16	1	0	0	0	1
2002/2003	None	6	0	0	0	0	0
2003/2004	None	10	0	0	0	0	1
2004/2005	None	0	0	0	0	0	0
2005/2006	None	6	0	0	0	0	0
2006/2007	None	9	0	0	0	1	0
2007/2008	None	2	0	2	0	0	0
2008/2009	None	9	0	0	0	0	0
2009/2010	None	36	0	0	0	0	0
2010/2011	None	71	0	2	1	0	0
2011/2012	VA = 30	19	0	2	0	0	1
2012/2013	VA = 30	30	0	0	0	3	0
2013/2014	VA = 30	9	0	0	0	2	0

2014/2015	VA = 23	20	1	0	0	1	0
2015/2016	VA = 22	19	0	0	0	0	0
2016/2017	TAT=23	4	1	1	0	1	0
2017/2018	TAT=23	4	0	1	0	0	0

† Inuit communities; ‡ Cree communities

3.2.3 Ontario

The Government of Ontario's *Recovery Strategy for Polar Bear in Ontario* (Tonge and Pulfer 2011) indicates that, at the time of publication, harvest by members of Treaty 9 in Ontario was considered sustainable, based upon the best available data for population abundance (Lunn et al. 2006). In 1976, a voluntary limit of 30 bears was established through an informal agreement with the coastal Cree communities, whereby up to 30 hides could be sealed for sale annually [12 to Fort Severn, 12 to Winisk (Peawanuck), 6 shared between Attawapiskat, Fort Albany and Kashechewan] (Ontario Ministry of Natural Resources 1980, 2008). During the 1970s and 1980s annual Ontario harvest averaged 20.7 individuals (Kolenosky et al. 1992). In September 2009, polar bears were listed as threatened under Ontario's Endangered Species Act, which prohibits the sale of polar bear parts within Ontario. Thus, hides are no longer sealed in Ontario, and this agreement is largely obsolete.

Ontario's harvest has been considerably lower than the 30 bear limit, averaging 4.2 polar bears annually from 1994/1995 to 2016/2017, and 1.8 polar bears annually from 2011/2012 to 2016/2017 (Source: Ontario Ministry of Natural Resources and Forestry database).Although Ontario Coastal Cree communities were present at the meetings to establish voluntary quotas in 2011 and 2014, not all communities were represented, and thus unable to formally agree to the quotas. Currently, Ontario has no formal means of tracking polar bear harvest of defense of life and property kills.

3.3 Voluntary Agreements and Harvest Limits

2011 Voluntary Agreement

In September 2011, a user-to user meeting was held in Inukjuak, Québec. The meeting was convened in response to a high removal of polar bears by Inuit hunters during the 2010/2011 hunting season (reported harvest = 104, 73 by Nunavik Inuit, 30 by Nunavut Inuit, 1 by Eeyou Istchee Cree) and associated concern raised by domestic and international parties about the sustainability of harvest. The meeting was attended by officials representing the responsible governments, WMBs, land claims organizations, and hunters from Nunavut, Ontario and Québec. However, not all of the coastal Cree communities in Ontario were represented.

The parties recognized the need to limit the level of take from the SH subpopulation and for WMBs to collaborate in their decision-making. A voluntary agreement was drafted for the 2011/12 harvest season. Key features of 2011 voluntary agreement included:

- A temporary limit to take (including subsistence hunting and defense kills / on-land and off-shore):
    - QC: 26 for Nunavik Inuit, and 4 for Eeyou Istchee Cree;
    - NU: 25 for Nunavut (i.e. Nunavut's existing quota);
    - ON: 5 for the six coastal Cree Nations of Ontario.
- The need to build a formal management system for Nunavik and conduct a new population survey.
- Commitment to review harvest levels when new population data become available.
- An international export limit of 60 polar bear hides.

The voluntary agreement was renewed for the 2012/13 hunting season. In 2013/14, a formal renewal was not undertaken, but low harvest levels were reported.

The full agreement included as Appendix A to this document.

<u>2014 Voluntary Agreement</u>

In September 2014, hunters, Inuit and Cree organizations and governments involved in the management of the Southern Hudson Bay polar bear subpopulation met in Ottawa and came to a voluntary agreement with regard to the harvest of polar bears in accordance with the respective hunting seasons of each jurisdiction. The agreement was in effect from November 2014 until November 2016. Meeting participants recognized the important commitment of hunters to the conservation and sustainable use of polar bears. Significant compromises were made by respective Indigenous stakeholders. Participants agreed to the following voluntary limits to the annual take (including subsistence hunting and defense kills) to be implemented for the 2014/15 and 2015/16 hunting seasons:

- 22 for Nunavik Inuit;
- 20 for Nunavut Inuit;
- 3 in total for Ontario and Québec Cree, with alternating division per harvest season starting with 1 for Québec Cree and 2 for the Ontario Cree. Not all of the coastal Cree communities in Ontario were represented and thus unable to agree to the limits.

It was also agreed that the limits should be implemented in the context of sex-selective harvest and a flexible quota system, where applicable.

The full agreement is included as Appendix B to this document.

3.4 Cree Nation Government Perspective Concerning Polar Bear Harvest

The Cree of Eeyou Istchee periodically take bears that have entered or approached hunting camps located on islands or on promontories along the eastern James Bay coast of their territory in Québec. The number varies from one year to the next, and several years may pass with no kills. However, it is quite possible that four, five or six bears might be taken in a given year, especially in the Charlton Island archipelago. These islands are south of the southern limit of the Nunavik Marine Region. There is no established TAT in this area.

The situation is somewhat similar to that on the west coast of James Bay, including Akimiski Island (Nunavut).

In the view of the Cree Nation Government, a comprehensive approach to SH subpopulation management should involve communities on both coasts in decisions involving the reporting of defense of life and property, or the introduction of specific measures to reduce defense of life and property kill mortality. The EMRWB is currently compiling information on polar bear sightings and encounters and this information will be made available to interested parties.

4. Indigenous Knowledge

4.1 Nunavik Marine Region Wildlife Board - 2018 Report

Background

In 2018 the NMRWB completed a report on findings from a comprehensive polar bear Inuit Knowledge study in the three Nunavik communities (Kuujjuaraapik, Umiujaq, and Inukjuak) within the SH subpopulation range (NMRWB 2018). This study was conceived by the NMRWB upon receiving a request in 2012 from Canada's then Minister of Environment, the Honourable Peter Kent, that NMRWB work towards the development of a formal management regime for the harvest of polar bears in the Nunavik Marine Region and specifically to establish a Total Allowable Take. As the NMRWB considers the knowledge, traditions and hunting practices of Nunavik Inuit in its decisions and actions, this project was deemed necessary to document information necessary for NMRWB decisions on polar bears. The project was designed to not only focus on gathering information directly applicable to management decisions, but to document as comprehensive a report as possible on the Inuit Knowledge of polar bears in the three communities. The full report can be obtained by contacting the NMRWB (www.nmrwb.ca, info@nmrwb.ca).

Key findings

The findings presented here are the outcome of 13 separate semi-directed interviews conducted with 25 elders, hunters, and knowledge holders. Data was analyzed from over 24 hours of interview audio recordings and transcripts, and 240 features mapped through a participatory mapping component of the study. An average of ten participants were sought per community, with the ability to increase or decrease the number according to the point at which redundancy of information was found. Findings should be considered within the scope of the project, and should not be considered to indicate the full extent of Inuit Knowledge on polar bears from the area.

- Ecology and biology
    - There has been a clear increase in polar bear numbers in the SH subpopulation since the 1970s. In Umiujaq it is only within the last 25 years that bears have been seen with any consistency.
    - SH subpopulation polar bears have increased their distribution. The use of inland areas was noted, including bears being found and hunted several kilometers inland of Inukjuak.
    - The condition of SH subpopulation polar bears was reported to be very healthy, fatter in the winter and skinnier in the summer, but rarely so skinny that participants were concerned about the bear's health.
    - A number of frequently used denning areas were identified. They were typically located in areas commonly accumulating significant snow depth and usually close to the coast, although in some instances at considerable distance inland.
    - The preferred diet of SH subpopulation polar bears is ringed seals, but many alternative prey items were reported, frequently including bird eggs and belugas.

- Management and stewardship
    - It is believed that traditional stewardship practices are sufficient for conservation and that the introduction of a quota to limit polar bear hunting is unnecessary.
    - Further, participants noted that introduction of quotas could be possibly dangerous or counterproductive. There is concern that a quota may create competition, and encourage hunters to take animals they would otherwise not hunt, or take them at less optimal seasons.
    - Some common stewardship practices currently used included hunting only based on need and not wasting any of the animal killed, not hunting polar bears during the summer, and not harvesting cubs or known mothers.
    - If a quota system is to be discussed, participants want to ensure that their knowledge is considered in this plan, that any plan consider the conservation strategies identified above, and most of all that any plan be fair to all communities and hunters in the region.
    - Polar bear hunting remains an integral part of Nunavimmiut culture, society, identity and economy today.

It was clear that participants are concerned with both the health of polar bear populations, as well as the aspects of Inuit livelihood which are closely associated and integrated with polar bears. A close and complex relationship between Inuit and polar bears is clearly evident in this study, and consideration of this will be important in creating and implementing effective management measures which represent the people affected by them (Berkes 2009).

4.2 Nunavut Inuit Qaujimajatuqangit (IQ)

Voices from the Bay: Traditional Ecological Knowledge of Inuit and Cree in the Hudson Bay Bioregion (McDonald et al. 1997) provides insights into the environment of Southern Hudson Bay. More recent local observations have been captured through submissions made by the Sanikiluaq Hunter's and Trapper's Organization (HTO) to Environment and Climate Change Canada during consultations on polar bears as a species at risk and to the Nunavut Wildlife Management Board with respect to the Nunavut Polar Bear Management Plan (Sanikiluaq HTO 2018). Participants from Sanikiluaq "emphasized that they know the polar bear population is increasing rather than decreasing, in other communities as well as in Sanikiluaq. In the past, hardly any polar bears were seen around Sanikiluaq. Now, people cannot go camping due to fear of bears. Cabins and caches have been destroyed by bears. Participants said that they do not believe climate change will cause the disappearance of polar bears as they can hunt in water. They said that Inuit Knowledge should be considered more. According to IQ, it is normal for the polar bear population to increase and decrease, in a cycle" (CWS 2009:24).

4.3 Traditional Ecological Knowledge of Polar Bears in the Northern Eeyou Marine Region

A Traditional Ecological Knowledge study based on interviews with land users was held jointly by the Cree Nation Government, the Eeyou Marine Region Wildlife Board and the Cree Trappers' Association. The interviews were conducted in 2017 and a draft report is in development. The objective of the study was to provide a comprehensive portrait of the role and importance of polar bear to the Cree in the region.

The study provides a significant amount of traditional knowledge, as well as current observations and concerns. One of the main contributions was to locate the geographic areas where most observations, and/or human bear conflict incidents have occurred in the last 25 years. Maps depict the locations that have been frequented by polar bears in recent years, as well as harvest sites and denning locations.

Although a fair amount of information and knowledge was shared in the course of the study, it is important to note that the information in the report is limited to that shared by participants. It does not represent all possible Cree knowledge of polar bears from the region.

One element that came out of the consultation was the importance, respect and concern that many participants expressed on the subject of polar bears. Many had observations and stories to share. However, participants also expressed concerns about an increase in relative abundance of polar bears in the Eeyou Marine Region and the growing amount of interactions, many of which have been undesirable or threatening. Climate change and, more specifically, changes in sea ice dynamics in Hudson Bay and James Bays were mentioned as potential causes for the increase. Some land users suggested that polar bears are extending their distribution area southward because of difficulty hunting seals and that dietary changes may be occurring as way for polar bears to adapt to a changing environment.

Polar bear harvesting from deliberate hunting is not a traditional activity for the Cree. However, defense of life and property kills were reported by several land users. In addition, the fact that many land users felt a growing threat from polar bear during their traditional activities in the land emphasizes the importance of developing and raising awareness on safety guidelines and preventive measures. For their protection, land users have to be prepared to use deterrent and lethal methods if required. However, many preventive measures can be used to avoid attracting the bears in the first place.

Just like polar bear are in the process of adapting to a changing environment, it appears that the land users of Eeyou Istchee also need to adapt to more frequent encounters with polar bears and potential dangers associated with the presence of polar bears on the land.

Laforest et al. (2018) conducted semi-directed interviews on the subject of polar bear biology and climate change with Cree elders in the northern Eeyou Marine Region. The interviews were conducted in 2012 in Wemindji, Chisasibi, and Whapmagoostui. The interviews held in Whapmagoostui also included elders from Kuujjuarapik, the adjacent Inuit community. Laforest et al. reported that participants were unanimous in their recognition of a warming climate and prolonged ice-free season in the area. However, communities and respondents differed in their observations on other issues, with latitudinal trends evident in observations of polar bear distribution, denning activity, and foraging habits. Communities also differed in their perception of the prevalence of ‘problem’ polar bears and the conservation status of the species. One-third of participants held the view that polar bears will be unaffected by, or even benefit from, longer ice-free periods. A majority of participants indicated that the local polar bear population was stable or increasing in abundance.

Laforest’s observations should be reviewed with representatives of the three communities which he visited, as well as with Waskaganish and Eastmain further to the south. The majority of bear encounters (and bear mortality) in recent years have occurred in the territories used by these two southern communities. The experience, in the case of Charlton Island in particular, has drawn attention to the importance both of lines of communication as well as of clear responsibilities for reporting events subsequent to encounters (including the responsibility for cubs taken (or abandoned) in this process). There are observations of bears travelling inland at the latitude of Chisasibi, and it would be helpful to know whether denning is taking place on the Québec side of James Bay. It is also worth noting that a recent succession of late springs, and the accumulation of rafted ice along the coast, may also have implications for bear behaviour (and vulnerability to hunting). It may be worth further enquiries, given the probable significance of ice cover in James Bay for bear distribution and behaviour in the future.

5. Scientific Assessment

5.1 Subpopulation Abundance

5.1.1 Early Assessments of Abundance

The first abundance estimate for the SH subpopulation came from a three-year (1984–1986) mark-recapture study, conducted mainly along the Ontario coastline of Hudson Bay, from Hook Point to the border with Manitoba (Kolenosky et al. 1992). The initial estimate obtained from that study (763 ± 323 bears) was later corrected to 641 bears (95% CI: 401 – 881) after a re-analysis of the original capture data (Obbard et al. 2007) but covered only the Ontario coastline. A subsequent 3-year capture-recapture study (2003–2005), covering again the Ontario coastline from Hook Point to the border with Manitoba, produced an estimate of 681 bears (95% CI: 401–961) (Obbard et al. 2007). An analysis of bears captured on Akimiski Island in James Bay during 1997 and 1998 resulted in the addition of 70–110 bears (Obbard et al. 2007) and the total SH subpopulation was therefore estimated by the PBTC to be between 900-1000 bears for management purpose. Results from the two capture-recapture studies suggested that the abundance was unchanged between 1984–1986 and 2003–2005, though survival rates in all age and sex categories and body condition declined (Obbard 2008).

5.1.2 Aerial Surveys Conducted in 2011/12 and 2016

An aerial survey was conducted during the fall ice-free season over mainland Ontario and Akimiski Island in 2011 and over the remaining islands in James Bay, the coastal areas of Québec from Long Island to the SH–FB subpopulation border, and the off-shore islands in eastern Hudson Bay in 2012. This survey covered all areas sampled for the capture-recapture studies as well as a substantial area not covered by those surveys. Results of this mark-recapture distance- sampling (MRDS) analysis provided an estimate of 860 bears (95% CI: 580–1,274) in the mainland Ontario, neighboring islands, and Akimiski Island portions of the SH subpopulation management unit during the 2011 ice-free season plus an additional 83 bears (SE = 4.5) in the 2012 study area. Thus, combining the aerial survey results from 2011 and 2012 yielded an overall estimate of 943 bears (SE: 174, 95% CI: 658–1350) for the SH subpopulation (Obbard et al. 2015). Overall, despite the difference in methodologies, assumptions, and biases between capture–recapture studies and aerial surveys, these lines of evidence suggest it is likely that the subpopulation had not changed in abundance between the mid-1980s and 2012, or that any changes were undetectable due to differences in methodology. Nevertheless, the duration of sea ice within the bounds of the SH subpopulation declined over this period (Hochheim and Barber 2014, Stern and Laidre 2016, NMRWB 2018) and scientific research also indicates a decline in body condition and body size of bears during that same period (Obbard et al. 2016, M.E. Obbard unpublished data).

An intensive aerial survey, covering the same areas as the 2011/12 survey, was repeated in September 2016 to re-assess SH abundance. All areas in Ontario, Nunavut and Québec were sampled within a 3-week period to ensure complete coverage within the same season and year. The abundance estimate obtained from that survey was 780 bears (95% CI: 590–1029).

Although the 95% confidence interval of both surveys overlapped, the 17% decline between the point estimates suggested that the subpopulation may have declined between 2012 and 2016. The proportion of yearlings in the observed portion of the subpopulation also declined from 12% in 2011 to 5% in 2016, whereas the proportion of cubs remained similar (16% in 2012 vs. 19% in 2016) suggesting a low survival of cubs to the yearling age class (Obbard et al. 2018).

5.1.3 Supplemental Aerial Surveys Conducted in 2018

To assess if the apparently low survival rate of cubs born in 2015 was an unusual event or represented an ongoing trend for the SH subpopulation, and to obtain an additional abundance estimate for a portion of the subpopulation, a partial survey of the Ontario coastline was conducted in September 2018. This survey consisted of flying a single transect parallel to the coast for the entire coastline of Ontario and Akimiski Island. The survey used double-observer mark-resight methods and was an exact repeat of a portion of the 2011 and 2016 surveys. The 2018 survey was designed to cover the area with the highest density of bears. The results of this survey indicated a slightly lower abundance in the coastal area in 2018 (249 bears, 95% CI: 230 – 270) than in 2016 (269 bears, 95% CI: 244 – 297) and significantly lower abundance than in 2011 (422 bears, 95% CI: 381 – 467; significance based on overlap of 95% CI). The proportion of yearlings in the coastal area for the three surveys was variable (2011: 12%, 2016: 3%, 2018: 7%) as was the number of cubs (2011: 15%, 2016: 17%, 2018: 10%), but the proportion of adults in the coastal area increased in each survey (2011: 60%, 2016: 71%, 2018: 74%). The results of the 2018 survey should be used tentatively, as they are not a complete sample of the subpopulation. However, the number of observed bears represents >25% of the estimated subpopulation, suggesting these numbers are at least a useful piece of additional information. Although these results suggest that cub survival to the yearling age class is not consistently low, the proportion of dependent animals seen in the coastal area has declined in every year, tentatively suggesting that reproductive output has been reduced. Further, the nearly identical estimates of abundance in 2018 and 2016 for the coastal area and the significant differences for the same area in 2011 corroborate the finding from Obbard et al. (2018) that the population had likely declined.

5.2 Supplementary Information - Reproduction, Body Condition, Survivorship, and Movement

5.2.1 Reproduction

The first information on reproduction for the SH subpopulation comes from Kolenosky and Prevett (1983), who assessed litter size and cub production by flying aerial surveys of the Ontario coast and Akimiski Island in February and March from 1974-1978. They estimated average litter size at 2.0. Annual cub production varied from 33-112 in the area sampled. Although data on litter size and litter production were collected during capture-recapture studies in the 1980s, this information is not reported in any published documents. The next available information on reproduction is reported in Obbard et al. (2010) from capture-recapture work in the early 2000s. They report litter size of cubs at 1.575 with a standard error of 0.116. They also report the litter production rate of different age classes of bears [4 year olds

= 0.087 (SE 0.202); 5 year olds = 0.966 (SE = 0.821); and ≥6 year olds = 0.967 (SE=0.022)]. Obbard et al. (2016) reported cub litter size as 1.56 and the proportion of cubs in the observed bears as 0.16 from the 2011/12 aerial surveys. Obbard et al. (2018), reported a litter size of 1.46 (SD=0.5) and the proportion of cubs in the observed bears at 0.19 from the 2016 aerial survey. Unpublished aerial survey results from the coastal area, conducted in 2018 found a litter size of 1.47 (SD=0.61) and the proportion of cubs in the observed bears at 0.1 for the coastal area.

5.2.2 Body Condition

Obbard et al. (2016) examined trends in body condition for 900 bears captured during three different capture-recapture studies (i.e., 1984-1986, 2000-2005 and 2007-2009). These captures were made during onshore during the ice-free period. A body condition index (BCI) was calculated for all bears according to the methods of Cattet et al. (2002), relating measurements of a bear's mass to its body length. BCI declined significantly over time in all age, sex and reproductive classes. In addition to these body condition measures, analyses by Obbard, Newton and Howe (Ontario Ministry of Natural Resources and Forestry, unpublished data) indicate that female polar bears and cubs have seen marked declines in total body length, weight and zygomatic arch width. Further, declines have been proportionally greatest in cubs, followed by adult females then adult males.

In Nunavut, body condition scores (BCS) of harvested polar bears have been determined for SH subpopulation since 2010. Most were harvested during winter and spring, while on the sea ice. BCS scoring follows a 5-scale rating system that has been used in other research studies (Stirling et al. 2008). The BCS of 191 polar bears (53 females and 138 males) was examined (2010-2017 data). 92.7% of the harvested bears had a BCS of average and better; only 4 bears were deemed very skinny, and 10 were skinny. Throughout the reporting period for these BCS, average and above average bears were common every reporting year (Figure 3).

It is important to note that information about polar bear body condition collected in Ontario (ice-free period) and Nunavut (on ice, during winter and spring) were collected at different times of the year, and as such are not necessarily contradictory. Polar bears that are harvested out on the sea ice in winter and spring have had the opportunity to hunt and regain body mass lost the previous summer/fall while onshore.

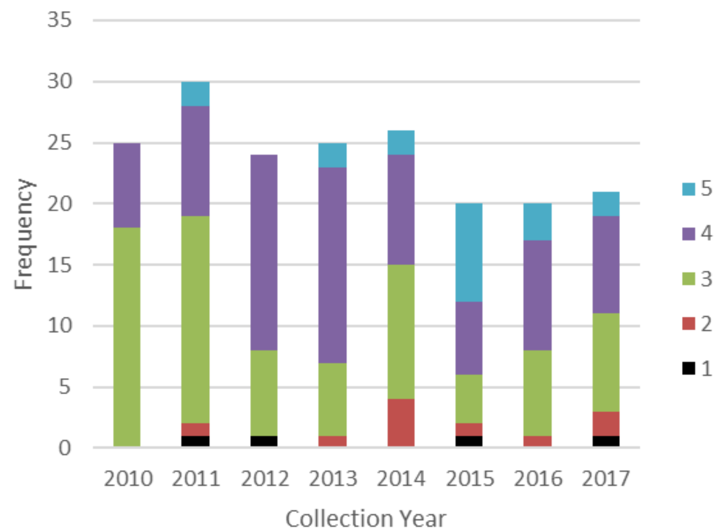

***Figure 3**: Frequency of body condition scores from 1 (skinny) to 5 (fat) for harvested bears of the Southern Hudson Bay Polar Bear Subpopulation between 2010 and 2017.*

5.2.3 Survivorship

Obbard et al. (2007) present the most up-to-date and robust estimates of survival in the SH subpopulation. The authors analyzed all capture-recapture data from 1984 through 2005 in one model to assess change in survival. They estimated substantial declines in survival of all age and sex classes from the 1980s through 2000s. Their results are reproduced in Table 5.

***Table 5**. Age-specific survival estimates of Southern Hudson Bay Polar Bear.*

Year	Female									
	COY		Yearling		Subadult		Adult		Senescent	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI
1984	0.768	0.550 - 0.986	0.767	0.549 - 0.985	0.936	0.685 - 1.00	0.936	0.685 - 1.00	n/a*	n/a*
1985	0.768	0.550 - 0.986	0.767	0.549 - 0.985	0.936	0.685 - 1.00	0.936	0.685 - 1.00	0.591	0.254 - 0.928
1986	0.702	0.686 - 0.718	0.701	0.685 - 0.717	0.909	0.780 - 1.00	0.909	0.778 - 1.00	0.534	n/a*
1999	0.749	0.589 - 0.908	0.746	0.587 - 0.905	0.930	0.869 - 0.991	0.930	0.868 - 0.991	0.561	0.334 - 0.788
2000	0.748	0.589 - 0.908	0.746	0.587 - 0.905	0.930	0.869 - 0.991	0.930	0.869 - 0.991	0.561	0.334 - 0.788
2001	0.748	0.588 - 0.908	0.746	0.587 - 0.905	0.930	0.869 - 0.991	0.930	0.868 - 0.991	0.561	0.334 - 0.788
2002	0.749	0.589 - 0.908	0.746	0.587 - 0.905	0.930	0.869 - 0.991	0.930	0.869 - 0.991	0.561	0.334 - 0.788
2003	0.644	0.380 - 0.909	0.64	0.373 - 0.907	0.893	0.792 - 0.993	0.892	0.791 - 0.993	0.444	0.153 - 0.735
2004	0.645	0.380 - 0.909	0.64	0.373 - 0.907	0.893	0.792 - 0.993	0.892	0.791 - 0.993	0.444	0.153 - 0.735
	Male									
	COY		Yearling		Subadult		Adult		Senescent	
	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI	Mean	95% CI
1984	0.634	0.350 - 0.919	0.631	0.349 - 0.914	0.884	0.767 - 1.00	0.884	0.767 - 1.00	0.428	0.055 - 0.802
1985	0.635	0.350 - 0.919	0.631	0.349 - 0.914	0.884	0.767 - 1.00	0.884	0.767 - 1.00	0.428	0.055 - 0.802
1986	0.591		0.593		0.838	0.778 - 0.898	0.838	0.778 - 0.897	0.486	
1999	0.607	0.410 - 0.805	0.602	0.408 - 0.795	0.873	0.776 - 0.971	0.873	0.776 - 0.971	0.394	0.144 - 0.644
2000	0.607	0.410 - 0.804	0.602	0.408 - 0.795	0.873	0.776 - 0.971	0.873	0.776 - 0.971	0.394	0.144 - 0.644
2001	0.607	0.409 - 0.806	0.602	0.408 - 0.795	0.873	0.776 - 0.971	0.873	0.775 - 0.971	0.394	0.144 - 0.644
2002	0.607	0.410 - 0.805	0.602	0.408 - 0.796	0.874	0.776 - 0.971	0.874	0.776 - 0.971	0.394	0.144 - 0.645
2003	0.491	0.211 - 0.771	0.485	0.204 - 0.765	0.812	0.663 - 0.961	0.811	0.662 - 0.960	0.293	0.029 - 0.558
2004	0.492	0.211 - 0.772	0.485	0.204 - 0.766	0.812	0.663 - 0.961	0.811	0.662 - 0.961	0.293	0.029 - 0.588

5.2.4 Movement

Although there has been relatively limited information published on the movements of marked bears in the SH subpopulation, substantial data are available. Obbard and Middel (2012) examined the boundaries of the SH subpopulation using movements of radio collared bears. They found that movements largely conformed to the current management boundaries, but that there were regular movements into other subpopulations while on the sea ice. Preliminary analysis of marked and subsequently harvested bears suggests that bears that were originally marked in WH are regularly harvested in SH and vice versa, with a greater proportion of WH bears harvested in SH. Despite substantial overlap among bears from the SH, WH and FB subpopulations while on the sea ice, movement data indicate a high degree of fidelity to onshore areas used during summer. Small mating season home ranges, coupled with geographic isolation, is believed to have contributed to a high degree of genetic distinctiveness for polar bears in James Bay relative to other locations (Obbard and Middel 2012, Crompton et al. 2008, Viengkone et al. 2016, 2018).

5.3 Sea Ice Conditions

Stern and Laidre (2016) evaluated changes in the timing of spring sea ice retreat and fall sea ice advance for all 19 global polar bear subpopulations, from 1979-2014, using a common set of sea ice metrics across subpopulations. Their methodology has been adopted by the Polar Bear Specialist Group (PBSG) as an indicator of the availability of sea-ice habitat in the PBSG's status table (http://pbsg.npolar.no/en/status/status-table.html). Full methodological details are provided in Stern and Laidre (2016).

The analysis indicated earlier sea ice retreat and later sea ice advance in all 19 subpopulations. Trends generally ranged from a 3 to 9 day earlier spring sea ice retreat and a 3 to 9 day later fall sea ice advance per decade across subpopulations. SH, which is the most southerly of all subpopulations, had among the shortest duration sea-ice coverage periods (approximately 210 days above the 15% ice coverage threshold used by the authors; Figure 5, panel S5). While sea ice loss has been extensive in the SH subpopulation over the last four decades, the rate of sea ice loss has been less extreme than what has been observed in other polar bear subpopulations (Table 5).

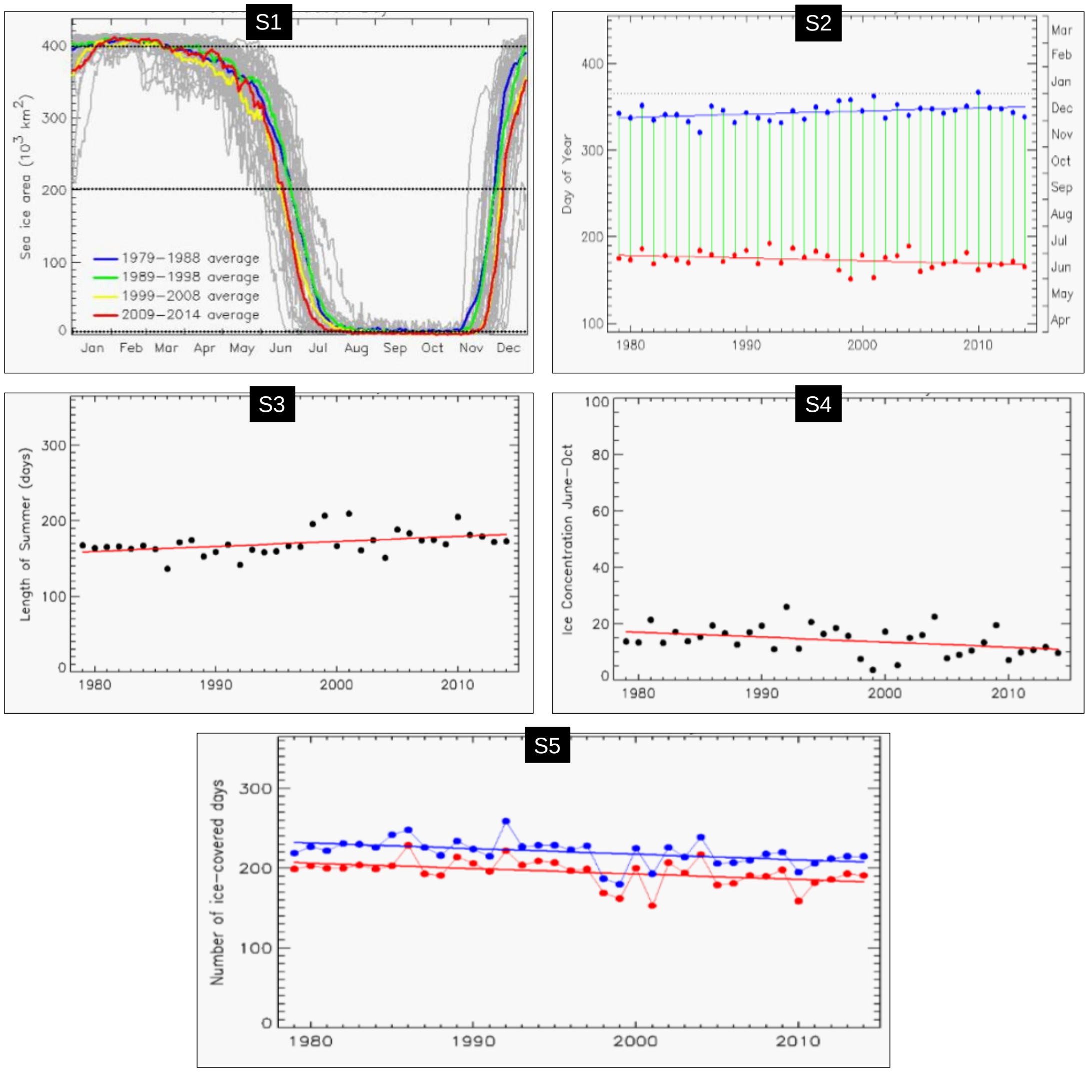

Figure 5*. Reproduction of figures included in supplementary materials of Stern and Laidre (2016) for the Southern Hudson Bay Polar Bear Subpopulation.* ***Panel S1****: Daily sea-ice area, January-December, 5 1979-2014 (gray curves). Colored curves are decadal averages. Upper horizontal dotted line is average sea-ice area in March; lower horizontal dotted line is average sea-ice area in September; middle horizontal dotted line is threshold for determining dates of spring sea-ice retreat and fall sea-ice advance.* ***Panel S2****: Dates of sea-ice retreat (red) and sea-ice advance (blue) for 1979-2014. The red and blue lines are least-squares fits. The vertical green lines indicate the time interval between retreat and advance (i.e., length of summer season).* ***Panel S3****: Length of the summer season (from spring sea-ice retreat to fall sea-ice advance) versus year, with least-squares line in red.* ***Panel S4****: Summer (June through October) sea-ice concentration versus year, with least-squares line in red.* ***Panel S5****: Number of ice-covered days per year, 1979-2014. An ice covered day is one in which the sea-ice area exceeds a threshold (defined in main text of Stern and Laidre 2016). Blue: number of ice-covered days above 15% threshold. Red: number of ice-covered days above 50% threshold. Least-squares lines are also shown.*

***Table 5**. Reproduction of PBSG status table columns summarizing trends in sea ice coverage according to global polar bear subpopulation (PBSG 2018).*

Subpopulation	Sea ice metrics†		
	Change in spring ice retreat (days per decade)	Change in fall ice advance (days per decade)	Change in summer sea ice area (percent change per decade)
Arctic Basin	-3.2	8.0	-6.7
Baffin Bay	-7.3	5.2	-18.9
Barents Sea	-16.6	24.2	-16.0
Chukchi Sea	-3.4	4.2	-18.8
Davis Strait	-7.7	9.7	-19.9
East Greenland	-6.2	5.5	-6.5
Foxe Basin	-5.3	5.8	-14.2
Gulf of Boothia	-6.9	8.3	-12.2
Kane Basin	-7.2	5.6	-12.2
Kara Sea	-9.2	7.6	-18.6
Lancaster Sound	-5.6	5.1	-7.7
Laptev Sea	-8.2	6.5	-14.7
M'Clintock Channel	-3.9	5.8	-9.0
Northern Beaufort Sea	-5.8	3.3	-5.9
Norwegian Bay	-1.3	4.3	-2.3
Southern Beaufort Sea	-8.7	8.7	-20.5
Southern Hudson Bay	**-3.1**	**4.1**	**-11.4**
Viscount Melville Sound	-4.7	7.4	-6.1
Western Hudson Bay	-5.2	3.6	-16.3

† Sea ice metrics defined as follows by PBSG: (1) Change in date of spring sea ice retreat and change in date of fall sea ice advance (days per decade) over the period 1979-2014. Each year the area of sea ice reaches a maximum in March and a minimum in September. In order to measure the timing of the seasonal change in sea ice, we find the date each spring when the area of sea ice has dropped to a specific threshold and the date each fall when the area has grown back to that same threshold. The region-specific threshold is halfway (50%) between the mean March sea-ice area and the mean September sea-ice area over the period 1979-1988 for each subpopulation region. (2) Change in summer sea ice area (percent change/decade, June 1 – October 31) relative to the average summer sea ice area during 1979-1988. Sea ice area was calculated as the sum, over all grid cells with >15% sea ice concentration, of the grid cell area multiplied by the grid cell sea ice concentration.

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7. Appendices

Appendix A: 2011 Voluntary Agreement

CONSENSUS FROM THE
SOUTHERN HUDSON BAY POLAR BEAR MANAGEMENT MEETING
INUKJUAK, 21 SEPTEMBER 2011

On 20-22 September 2011, Hunters, Inuit and Cree organizations and wildlife management boards, and governments involved in the management of the Southern Hudson Bay polar bear subpopulation met in Inukjuak (see attached agenda).

1. All participants agree to a temporary voluntary limit to the Southern Hudson Bay polar bear take (including subsistence hunting and defense kills) to be implemented for the 2011/12 hunting season:

    - 26 for Nunavik Inuit, and 4 for Cree of Eeyou Istchee;
    - 25 for Nunavut;
    - 5 for the six coastal Cree Nations of Ontario.

These limits should be considered in the context of a flexible quota system as implemented under the Memorandum of Understanding between Sanikiluaq and the Nunavut Government.

2. All participants commit to consider changes in 2012, following the review of all new sources of information, including but not limited to the 2011 and 2012 aerial survey results and traditional knowledge, whether this means increased or decreased harvest levels.

3. All participants welcome the hunter desire to set a long term management plan and stand ready to assist as needed, including the establishment of a flexible quota system and/or any other means that are deemed appropriate.

3. All participants welcome the hunter desire to set a long term management plan and stand ready to assist as needed, including the establishment of a flexible quota system and/or any other means that are deemed appropriate.

4. All participants agree to maintain close communication and collaboration regarding the management and the design of appropriate research for polar bears.

5. The relevant governments/institutions will ensure adequate reporting and registration systems of harvested bears are in place. Hunters commit to accurately report the take of bears on a timely basis, including pertinent biological information necessary for management purposes.

Appendix B: 2014 Voluntary Agreement

1

CONSENSUS FROM THE
SOUTHERN HUDSON BAY POLAR BEAR MANAGEMENT MEETING
OTTAWA, 27 SEPTEMBER 2014

On 25-27 September 2014, hunters, Inuit and Cree organizations and governments involved in the management of the Southern Hudson Bay polar bear subpopulation met in Ottawa and came to an agreement.

This agreement is in effect from November 2014 until November 2016 and is applicable to the take of polar bears in accordance with the respective hunting seasons of each jurisdiction.

Meeting participants recognize the important commitment of hunters to the conservation and sustainable use of polar bears. Moreover, participants commend the significant compromises made by respective aboriginal stakeholders in achieving this voluntary agreement.

Participants recognize the importance of improving the way that aboriginal traditional knowledge and science are brought together to support decision-making for the management and conservation of polar bears.

1. Participants agree to the following voluntary limits to the annual take (including subsistence hunting and defense kills) of Southern Hudson Bay polar bears to be implemented for the 2014/15 and 2015/16 hunting seasons.

- 22 for Nunavik Inuit;
- 20 for Nunavut Inuit;
- 3 in total for Ontario and Quebec Cree, with alternating division per harvest season starting with 1 for the Quebec Cree and 2 for the Ontario Cree.

These limits should be implemented in the context of sex-selective harvest and a flexible quota system, where applicable.

In November 2016, the relevant parties will meet to review this agreement.

2. Participants support the undertaking of additional scientific and traditional knowledge studies at the earliest possible opportunity to

inform future management decisions, and encourage the funding for this work from relevant organizations.

3. Participants agree to maintain close communication and collaboration regarding the implementation of this agreement (including achieving the voluntary limits and relevant interjurisdictional arrangements), the design of appropriate research and monitoring for polar bears, and the sharing of information relevant to management decision-making.

4. The wildlife management authorities, including those established under the various Land Claims Agreements, are encouraged to coordinate their decision-making (e.g. through inter-jurisdictional joint hearings).

5. Participants commit to the full and timely reporting of all human-caused mortality of polar bears, including in defense of life or property, and to ensuring that registration systems of harvested bears are in place. Reporting shall include pertinent biological information necessary for management purposes.

6. Participants recognize Environment Canada's jurisdiction for international export decisions related to Southern Hudson Bay polar bears, and that the content of this agreement will be one source informing these decisions.

7. This voluntary agreement is without prejudice to other agreements pertaining to the harvest of polar bears, or to the decision-making processes defined in the applicable land claims agreements.

8. All of the above is subject to consultation with affected stakeholders.

9. Agreed by:
   Nunavut Department of Environment
   Nunavut Tunngavik Incorporated
   Makivik Corporation
   Ontario Ministry of Natural Resources and Forestry
   Cree Trappers Association (Quebec)
   Fort Severn Cree Nation
   Cree Nation Government (Quebec)
   Environment Canada

Sanikiluaq Hunters and Trappers Organization
Inukjuak Nunavimmi Umajulirijiit Katujjiqatigiinninga
Kuujjuarapik Nunavimmi Umajulirijiit Katujjiqatigiinninga
Umiujaq Nunavimmi Umajulirijiit Katujjiqatigiinninga
Qikiqtaaluk Wildlife Board

10. Representatives from the following groups were not present at the meeting but will be invited to endorse the agreement by 10 October 2014:
Ministère des forêts, de la faune et des parcs de Québec
Regional Nunavimmi Uumajulirijiit Katutjiqatigiinninga
Hunting, Fishing, Trapping Coordinating Committee

11. Representatives from the following groups were not present at the meeting but will be encouraged to be involved:
Fort Albany First Nation
Kashechewan First Nation
Moose Cree First Nation
Weenusk First Nation at Peawanuck
Attawapiskat First Nation

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ

ᐊᖑᓇᓱᓪᓗᓂ ᐊᑦᑕᓇᕐᑐᒦᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᐊᖓᑕ ᓇᓄᕐᓂᒃ

07 ᔫᓂ 2019

ᑎᑎᕋᖅᑕᖏᑦ ᐅᑯᐊ: ᐃᐅᓇᒃ ᓇᒡᒍᖅ (ᓱᓚᑦᑐᓴᕐᕕᒃᔪᐊᖅ ᕗᐊᓯᖕᑕᓐᒥ) ᐊᒻᒪᓗ ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᐊᖓᓂ ᓇᓄᕐᓂᒃ ᑲᒪᔪᑎᓂᒃ ᐱᓕᕆᐊᓖᑦ (ᒫᑲᔅ ᑎᒃ, ᒍᓇᒡᒍᖅ ᒋᐅᓪᐳᕐᑦ, ᓵᒥᐅᓪ ᐊᐃᕗᓴᓐ, ᑏᕓᑦ ᓚ, ᓂᑯᓚᔅ ᓚᓐ, ᔩᓯᕝ ᓗᐊᕐᑐᕿᑉ, ᐋᓚᓐ ᐱᓐ, ᒪᓅ–ᒃᓘᑦ ᓇᑦᓱᖅ, ᐊᒻᒪᓗ ᒋᓚᐆᑉ ᓱᐊᖅ)

ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᐊᖓᑕ ᑲᒪᔾᔪᑎᓂᒃ ᐱᓕᕆᐊᓖᑦ (TWG) ᐋᖅᑭᑦᑕᐅᓚᐅᖅᑐᑦ ᐱᑕᖅᑲᒃᑲᐃᓪᓗᑎᒃ ᐅᖃᐅᔾᔨᕆᐊᕈᑎᓂᒃ ᐱᓪᓗᒋᑦ ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᐊᖓᑕ ᓇᓄᕐᓂᒃ ᓇᓄᖃᐅᖅᑐᓂ ᖃᐅᔨᒪᔫᑦ ᑲᑎᒪᔫᖃᑖᑦ. ᐅᑯᐊ TWG ᒫᓐᓇᕈᓗᒃ ᑲᑎᖅᓱᐃᓚᐅᖅᑐᑦ ᐊᑐᐃᓐᓇᕐᓂᒃ ᖃᐅᔨᓴᕐᑎᒻᒪᕇᑦ ᑎᑎᕋᖅᓯᒪᔭᖏᓐᓂᒃ ᐱᓪᓗᒋᑦ ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᐊᖓᑕ (SH) ᓇᓄᖃᐅᖅᑐᒥ, ᓇᐃᓈᖅᑐᒋᑦ ᖃᐅᔨᒪᓇᖅᑐᒥᒃ ᐃᓚᙱᐃᔭᐃᒍᑏᑦ ᖃᓄᐃᓪᓗᐊᖅᓂᖏᑦ, ᐱᓕᕆᖃᑎᖃᖅᑐᑎᒃ ᓱᓚᑖᓂᒃ ᖃᐅᔨᒪᔪᕐᕐᓴᒪᕆᒻᒥᒃ ᐋᖅᑭᓱᖅᑐᒋᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐆᑦᑐᖃᐅᑏᑦ, ᑲᒪᒋᓪᓗᒍ ᐊᖑᓇᓱᓪᓗᓂ ᐊᑦᑕᓇᕐᑐᒦᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅ, ᐊᒻᒪᓗ ᑎᑎᕋᖅᑐᒋᑦ ᑖᒃᑯᐊ ᑭᖑᓕᕇᒥᒃ ᐱᓕᕆᐊᕐᕕᑦ ᒫᓐᓇ ᐅᓂᒃᑳᓂ ᐅᑯᓄᖓ ᖃᐅᔨᒪᔫᑦ ᑲᑎᒪᔫᖃᑖᑦ. ᐃᑖᒃ ᖃᐅᔨᓴᕐᓂᖅ ᑐᙵᕝᕆᖅᑲᓪᓗᐊᓚᐅᖁᕙᓗᐊᖅ ᖃᐅᔨᓴᕐᑎᒻᒪᓇᓐᓂᒃ ᑐᓴᖅᑕᓂᒃ, ᓄᓇᖃᖅᑳᖅᓂᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ ᐃᓱᒪᒋᔭᐅᓚᐅᖅᑐᑦ ᑐᑭᑖᖅᑎᒍᓯᐊᖅᑐᒋᑦ ᐊᒻᒪᓗ ᐆᑦᑐᖃᐅᑎᒋᓪᓗᒋᑦ ᖃᓄᐃᓕᖅᓂᖏᑦ ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑐᓯᐅᔭᖅᐊᖓᑕ ᓇᓄᐃᑦ. ᐅᑯᐊ TWG ᐃᒪᐃᑦᑑᖏᑦᑐᑦ ᐃᓱᒪᓕᐅᕈᒻᒥᒃ–ᐋᖅᑭᑦᓱᐃᔩᑦ ᑎᒥᖏᑦ. ᐃᒪᐃᑦᑐᓪᓕ, ᐱᒐᓱᐊᖅᕙᖅᑲᓚᐅᖅᑐᑦ ᖃᐅᔨᒪᓂᖏᓐᓂᒃ ᑖᒃᑯᓇᓂ ᐃᓚᐅᔪᓄᑦ ᐋᖅᑭᓱᖅᑐᑦ ᐊᒻᒪᓗ ᑐᓂᓪᓗᒋᑦ ᐅᖅᑲᐅᔾᔨᕆᐊᕈᑏᑦ ᐃᑉᐱᒋᔭᓕᓐᓄᑦ ᐃᓱᒪᓕᐅᕈᑎᓂᒃ–ᐋᖅᑭᑦᓱᐃᓂᖅᒧᑦ ᑎᒥᐅᔪᓄᑦ ᐱᓪᓗᒋᑦ ᓂᒋᐊᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᐊᖓᑕ ᓇᓄᐃᑦ.

ᐅᑯᐊ ᐅᓂᒃᑳᑦ ᐱᑕᖅᑲᒃᑲᐃᔪᑦ ᐆᑦᑐᖅᑕᐅᒍᓐᓇᖅᑐᓂᒃ ᐊᖑᓇᓱᓪᓗᓂ ᐊᑦᑕᓇᕐᑐᒦᓐᓂᖏᓐᓂᒃ ᖃᐅᔨᓴᕐᓂᖅᒥᒃ ᒫᓂ ᑭᠪᓪᓕᐅᑉ ᑕᓯᐃᔭᐅᖅᔪᐊᖓᑕ ᓂᒋᐊᓂ ᓇᓄᖅᓂᒃ ᓇᓄᖃᐅᖅᑐᓂ. ᑭᖑᓪᓕᖅᐹᑦ ᖃᐅᔨᔭᑦ ᐃᒪᐃᑦᑐᑦ ᐊᒥᓱᑦ ᐱᑕᖃᕈᓐᓇᖅᑐᑦ ᐊᖑᓇᓱᓪᓗᓂ ᑲᒪᔾᔨᑏᑦ ᐃᒫᒃ ᑐᑭᓯᐅᒪᓗᓂ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᓐᓂᒃ ᐊᐅᓚᔪᓂᖅᒧᑦ ᑲᒪᒋᔭᓂᒃ ᐊᑕᐅᑦᓯᒃᑯᖅᑲᑕᐅᓗᑎᒃ ᐊᓯᖏᓐᓄᑦ ᐱᕙᓴᓄᑦ ᑐᓴᕋᕐᓴᓂᒃ ᐊᒻᒪᓗ ᐃᓱᒪᒋᔭᓇᐊᓕᓐᓂᒃ. ᖃᐅᔨᓴᕐᓂᖅ ᐊᑐᖅᑐᖅ ᐋᖅᑭᓱᖅᑕᐅᒪᔪᓂᒃ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐆᑦᑐᖃᐅᑏᑦ ᐋᖅᑭᓱᖅᑕᐅᓚᐅᖅᑐᑦᖅ ᕿᒥᒡᕈᓪᓗᒋᑦ ᑭᐅᔾᔪᑏᑦ ᐊᔾᔨᒌᙶᖏᑦᑐᓂ ᐊᕙᑖᑕ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᐅᓚᔾᔪᓂᖅᒧᑦ ᑲᒪᒋᔭᐅᓪᓚᖅᑐᓂᒃ. ᐱᑕᖅᑐᑦ ᑲᒪᒋᔭᐅᓂᖏᑦ ᐱᑕᖅᑎᔾᔪᔪᑦ ᐃᒻᒥᒃᑯᖓᔪᓂᒃ ᑎᑎᕋᖅᔪᒪᔪᓂᒃ ᐋᖅᑭᓱᖅᔪᒪᔪᑦ ᖃᐅᔨᒪᓱᐊᕈᑏᑦ, ᑖᒃᑯᐊ ᐊᒥᓱᓄᑦ ᐊᑐᖅᑕᑦ ᐆᒪᔪᓕᕆᓂᖅᒧᑦ. ᐆᑦᑐᖃᐅᑦ ᐃᓚᖅᑲᖅᑐᖅ ᑕᐃᒪᐃᓪᓗᐊᖅᑲᑎᒌᓂᒃ ᐊᖄᒍᓕᓐᓂᒃ ᐊᒻᒪᓗ ᐊᑐᖅᑕᖅ ᐊᖅᓇᓗᓐᓄᑦ ᓇᓄᖅᓄᑦ ᑭᓯᐊᓂ. ᑖᓐᓇ ᑲᒪᒍᓯᐅᔪᖅ ᐃᓚᖅᑲᖅᑐᖅ ᖃᑕᙳᑎᑏᙱᑦᑐᑦ ᐃᓚᑏᓐᓂᖏᓐᓂᒃ ᑕᒪᒃᑯᓇᓂ ᐱᑕᖅᑐᓂ ᖃᓂᑏᑦᑑᑕᐅᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐱᑕᖅᑐᑦ ᐊᒥᓱᕈᖅᐸᓪᓕᐊᓂᖏᓐᓂᒃ ᐊᓚᒃᑲᕈᑕᐅᔪᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᐱᐅᓯᖏᓐᓂᒃ ᐃᒫᒃ ᒫᓃᓚᔪᑦᑐᑦ ᐃᓗᐊᓂ ᑭᓪᓕᖏᑕ ᑕᒪᒃᑯᐊ ᑎᑎᕋᖅᑕᐅᒪᔪᑦ ᓇᓄᐃᑦ ᐊᒻᒪᓗ ᐊᔾᔨᓚᓕᖏᑦ ᐆᒪᔪᑦ. ᐆᑦᑐᖃᐅᑦ ᐃᓚᐅᑎᓯᒍᓐᓇᖅᑐᖅ ᐱᑕᖅᑐᐃᓐᓇᓇᐊᓕᓐᓂᒃ ᓇᔪᒪᐃᑦ ᐊᓯᔾᔨᖅᓂᖏᓐᓂᒃ ᑕᒪᒃᑭᓐᓂ ᖃᓂᑏᑦᑑᑕᐅᓂᖏᑦ–ᐊᑐᖅᑐᑦ ᑲᒪᒍᓯᐅᔪᓂᒃ (ᓲᖅᓗ, ᐊᓯᔾᔨᖅᐸᑦ ᐊᕙᑖ

ᐊᖓᔪᖅᑲᐅᑎᑦ ᓇᐃᓈᓯᑎᖏᑦ

ᐱᑕᖅᑲᕈᓐᓇᖅᓂᖓᑕ [K]) ᐊᒻᒪᓗ ᖃᓂᕇᑦᑑᑕᐅᓂᖏᑦ–ᐃᒻᒥᒃᑰᖓᔪᑦ ᑲᒪᒍᓯᐅᔪᓂ(ᓲᖅᑐ, ᐊᓯᔾᔨᐸᓪᓕᐊᔪᖅ ᐊᒥᓲᓂᖅᐹᓂᒃ ᐱᐅᓯᖅᒥᒍᑦ ᐊᒥᓱᕈᖅᐸᓪᓕᐊᓂᖓᑕ ᐊᑯᓚᐃᓐᓂᖓᑦ [r_{max}]).

ᒥᒃᓴᐅᓴᓚᐅᖅᑐᒍᑦ ᑭᓪᓕᖓᓐᓂᒃ ᐋᖅᑭᖅᓯᒪᔪᑦ ᖃᐅᔨᒐᓱᐊᕈᑎᑦ ᐊᑐᖅᑐᑦ Bayesian Monte Carlo ᑲᒪᒍᓯᐅᖓᑦ ᐱᑕᖃᖅᑐᓂᒃ ᐋᖅᑭᑦᓱᐃᑎᐊᒃᑲᓂᖅᑐᓂ. ᑖᓐᓇ ᑲᒪᒍᓯᐅᔪᖅ ᐊᑐᖅᑕᖅ ᒥᒃᓴᐅᓴᑦᑐᑦ ᖃᓄᐃᓪᓗᐊᓂᖓᑦ ᐊᒻᒪᓗ ᐱᑕᖃᖅᑐᑦ ᐊᒥᓱᕈᖅᐸᓪᓕᐊᓂᖓᑕ ᐊᑯᓚᐃᓐᓂᖓᑦ ᑲᒪᒋᔭᐅᓂᑯᓂᒃ–ᑕᑯᔭᐅᒃᑲᓂᖅᑐᓂᒃ ᖃᐅᔨᓴᖅᓂᒃᑯᑦ ᑖᒃᑯᓂ 1980ᑦ ᐊᒻᒪᓗ 2000ᑦ (Obbard ᐊᓯᖏᓪᓗ 2007), ᒥᒃᓴᐅᓴᒍᑎᑦ ᖃᓄᐃᓪᓗᐊᓂᖏᓐᓂᒃ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᓂᒃᑯᑦ 2010ᓂ (Obbard ᐊᓯᖏᓪᓗ 2015, 2018) ᐊᒻᒪᓗ ᐊᙳᑕᐅᔪᓄᑦ ᓈᓴᐅᑎᑦ ᒫᓂ ᓄᓇᕗᑦ, ᑯᐱᐊᒃ, ᐊᒻᒪᓗ ᐊᓐᑎᐅᕆᐅ. ᐊᔪᙱᒍᑕᐅᓚᐅᖅᒥᔪᖅ ᐃᓚᒋᓕᐅᑎᓪᓗᒋᑦ ᓯᕗᓪᓕᖅᒥᒃ ᑐᓴᕋᖅᓴᑦ ᐊᓯᖏᓐᓂᒃ ᑲᒪᒋᔭᓂᒃ ᖃᐅᔨᓴᖅᓂᖅᓂᒃ ᓇᓄᖅᓂᒃ. ᐱᑕᖅᑐᑦ ᐋᖅᑭᓱᖅᑕᐅᑲᓐᓂᖅᓂᖏᑦ ᐊᓚᒃᑲᐃᔪᑦ ᐃᒫᒃ ᓇᒦᓐᓂᖏᓐᓂᒃ ᐆᑦᑐᕋᐅᑦ ᐊᓚᒃᑲᐃᖅᑲᒃᑲᓐᓂᕈᓐᓇᖅᒪᑦ ᓱᓕᔪᖅᓇᖅᑐᓂᒃ ᐊᓯᔾᔨᑕᖅᓂᖏᓐᓂᒃ ᑭᙵᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᓂ ᓇᓄᖅᑲᐅᖅᑐᓂᒃ ᐊᓂᒍᖅᑲᑖᓂ ᐊᓪᕚᒍᓚᖓᓐᓂ.

ᐊᑐᐃᓐᓇᐃᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᖃᐅᔨᒍᑕᐅᙱᑦᑐᑦ ᐱᓪᓗᒋᑦ ᒫᓐᓇ ᓇᒦᓐᓂᖏᓐᓄᑦ ᖃᓄᐃᓕᖅᓂᖏᓐᓂᒃ ᓂᕆᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᓂ. ᓈᓴᐅᑎᑎᒍᑦ ᓇᓗᓇᖅᓂᖏᑦ ᐊᒻᒪᓗ ᑲᒪᒍᔪᐅᔪᑦ ᐊᔾᔨᒌᙱᖏᓐᓂᖏᑦ ᒪᑯᓇᓂ ᑲᒪᒋᔭᐅᓂᑯᑦ–ᑕᑯᔭᐅᒃᑲᓂᖅᑐᑦ ᖃᐅᔨᓴᖅᑐᒋᑦ ᐊᒻᒪᓗ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᓃᑦ ᐊᔪᕈᑕᐅᒻᒪᑕ ᒥᒃᓴᐅᓴᓪᓗᓂ ᐊᑯᓂᐅᔪᒥᒃ ᐊᓯᔾᔨᖅᑕᖅᓂᖏᓐᓂᒃ ᖃᖠᐅᓂᖏᑕ. ᐊᒥᓱᑦ ᓇᓗᓇᙱᒍᑎᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᒫᒃ ᓇᓄᖅᑲᐅᖅᑐᑦ ᐃᒪᐃᓚᐅᖅᒪᑦ, ᖄᑎᖓᓃᑦᑐᒍ, ᐊᔪᙱᒍᑕᐅᔪᖅ ᐊᖏᔪᒥᒃ ᐊᒥᓱᕈᖅᐸᓕᖅᓂᖏᓐᓂᒃ ᓇᓪᓕᐅᓯᒪᔪᒥ 1984-2016 ᐊᒻᒪᓗ ᑕᐃᒪ ᐃᑲᔪᕈᓐᓇᖅᑐᖅ ᐊᒥᓱᕈᓇᐊᖅᑐᑦ ᐊᖑᓇᓯᓚᖓᓴᑦ. ᑭᓯᐊᓂ, ᐱᑕᖅᒥᔪᖅ ᓇᓗᓇᙱᒍᒻᒥᒃ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᖅᓂᖏᓐᓂᒃ ᐅᕙᙵᑦ 943 ᓇᓄᐃᑦ 2012ᒥ (Obbard ᐊᓯᖏᓪᓗ 2015) ᐅᕗᖓ 780 ᓇᓄᐃᑦ 2016ᒥ (Obbard ᐊᓯᖏᓪᓗ 2018) ᑐᙵᕕᓕᓪᓗᒋᑦ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᓃᑦ ᐊᔾᔨᒌᒥᒃ ᑲᒪᒍᓯᖅᑲᖅᑐᓂ. ᓯᑯ ᒥᑭᓪᓕᕙᓪᓕᖅᓯᒪᓕᖅᒪᑦ ᓂᕆᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᐊᐅᓚᖅᓯᒻᕕᐅᔪᒥ, ᐃᓚᖏᑦ ᒥᑭᓂᖅᓴᐅᒐᓗᐊᖅ ᐃᒫᒃ ᐊᓯᖏᑦ ᓇᓄᖅᓂᒃ ᐊᐅᓚᖅᓯᒻᕕᐅᔪᑦ ᓇᓕᖏᑦ (Stern ᐊᒻᒪᓗ Laidre 2016), ᐊᒻᒪᓗ ᓂᕆᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᑦ ᖃᐅᔨᓇᖅᓯᒪᓪᒪᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᓇᐊᖏᑦ ᓂᖅᑭᖅᓯᐊᕙᐃᑦ (Obbard ᐊᓯᖏᓪᓗ 2016). ᖃᓂᒋᔭᖓᓂ ᐱᖓᓐᓇᖓᑕ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᓂ (WH) ᓇᓄᖅᑲᐅᖅᑐᒥ, ᐊᔾᔨᓚᓕᖏᑦ ᐱᐅᙱᓕᕙᓪᓕᕈᑎᑦ ᑎᒥᖏᓐᓄᑦ ᖃᐅᔨᓇᓚᐅᖅᑐᑦ ᓯᕗᖅᖓᒍᑦ ᐱᓗᓯᐊᖅᓂᐅᑉ ᓇᑐᓇᙱᒍᑎᓂᒃ ᒪᑯᓇᙵᑦ ᑲᒪᒋᔭᐅᓂᑯᑦ–ᑕᑯᔭᐅᒃᑲᓂᖅᑐᑦ ᖃᐃᔨᓴᖅᑐᒋᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᓇᐊᖏᑦ ᕿᑐᖅᖏᐅᖅᓂᖏᑦ, ᐃᓅᒍᓐᓇᖅᓂᖏᑦ, ᐊᒻᒪᓗ ᖃᓄᐃᓪᓗᐊᖅᓂᖏᑦ (Lunn ᐊᓯᖏᓪᓗ 2016). ᒫᓐᓇᕈᓗᒃ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᓃᑦ ᐱᖓᓐᓇᖓᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᒥ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᓇᐊᖏᑦ ᖃᖠᐅᓂᖏᑦ ᓇᓪᓕᐅᓯᒪᔪᒥ 2011-2016 ᑐᙵᕕᓕᓪᓗᒋᑦ ᐊᒥᓱᑦ ᓇᓗᓇᙱᒍᑎᑦ, ᐃᓚᖏᑦ ᐊᔾᔨᒌᙱᒍᑎᑦ ᖃᓄᐃᓪᓗᐊᖅᓂᖏᓐᓄᑦ ᒥᒃᓴᐅᓴᒍᑎᓄᑦ ᓈᓴᐅᑎᑎᒍᑦ ᐊᓚᒃᑲᓚᐅᙱᑦᑑᓗᐊᑦ (Stapleton ᐊᓯᖏᓪᓗ 2014; ᑎᒃ ᐊᓯᖏᓪᓗ 2017).

ᐃᓱᒪᒋᓚᐅᖅᑕᕗᑦ ᓇᓗᓇᖅᓂᖏᑦ ᒫᓐᓇ ᐊᒻᒪᓗ ᓯᕗᓂᑦᑎᓐᓂ ᖃᓄᐃᓕᖅᓂᖏᓐᓂᒃ ᓂᕆᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓂᕆᐊᓂ ᓇᓄᖅᑲᐅᖅᑐᒥ ᐋᖅᑭᖅᓱᖅᑐᑦ ᐱᖓᓱᑦ ᐆᒪᔫᓂᖏᓐᓄᑦ ᑕᑯᓐᓇᖅᑕᐅᙳᐊᖅᑐᑦ ᐱᑕᖃᑕᐅᔪᑦ ᓱᓕᔪᖅᓇᖅᑐᓄᑦ ᐅᐸᓗᖏᑕ ᖃᓄᐃᓕᖅᓂᖏᓐᓄᑦ, ᐅᕙᙵᑦ ᐱᐅᔪᖅ ᐅᕗᖓ ᐱᐅᙱᑦᑐᖅ, ᑐᙵᕕᓕᓪᓗᒋᑦ ᐊᑐᐃᓐᓇᐃᑦ

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ

ᖃᐅᔨᓴᕐᑎᒻᒪᕇᑦ ᑎᑎᖅᑲᖏᑦ ᐊᒻᒪ ᑎᑎᕋᕐᑕᐅᒪᔪᑦ ᓄᓇᖃᖅᑳᕐᓂᑯᑦ ᖃᐅᔨᒪᓂᖏᑦ. ᑕᑯᓐᓇᖕᒍᐊᕐᑕᑦ ᐋᕐᑭᓱᕐᑕᐅᓚᐅᕐᑐᑦ ᐊᑐᕐᑐᕆᑦ ᐊᔾᔨᒌᖕᖏᑦᑐᑦ ᑲᒪᒍᓯᐅᔪᑦ ᐱᑕᕐᑲᕐᑐᓂᒃ ᐋᕐᑭᑦᓯᐃᒃᑲᓂᕐᓂᕐᒧᑦ ᐊᒻᒪ ᐊᔾᔨᒌᖕᖏᑦᑐᑦ ᐃᓱᒪᒋᔭᑦ ᐱᓪᓗᒋᑦ ᓯᕗᓂᑦᑎᓐᓂ ᐊᑦᑐᐃᓂᖏᑦ ᓇᔪᒐᐃᑦ ᐊᓱᐃᔨᔭᑦ. ᑕᑯᓐᓇᖕᒍᐊᕐᑕᖅ 1 ᐊᓚᒃᑲᐃᔪᖅ ᐱᐅᔪᒥᒃ ᒥᒃᓴᐅᓴᒍᒻᒥᒃ ᐃᒫᒃ ᓯᕗᓂᑦᑎᓐᓂ ᐊᔾᔨᒋᓚᓐᓂᐊᕐᒪᐅᒃ ᐊᓂᒍᕐᑐᑦ 30 ᐊᕐᕌᒍᑦ, ᐱᑕᕐᑲᑐᐃᓐᓇᕐᓗᓂ ᓲᒃᑲᐃᑦᑐᒥᒃ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓂᖏᑦ ᒫᓂ *K* ᐃᓱᒪᒋᓗᒋᑦ ᒥᒃᓴᐅᓴᒍᑏᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓂᖏᓐᓂᒃ ᖃᑦᓯᐅᓂᖏᑕ ᓯᑯᓯᒪᕙᑦᑐᑦ ᐅᓪᓗᐃᑦ ᐊᕐᕌᒍᒥ ᒫᓂ ᓂᕆᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᑕ ᐊᐅᓚᑦᓯᖕᕕᐅᔪᒥ. ᑕᑯᓐᓇᖕᒍᐊᕐᑕᖅ 2 ᐊᓚᒃᑲᐃᔪᖅ ᕿᑎᖓᓃᑦᑐᒥᒃ ᒥᒃᓴᐅᓴᒍᒻᒥᒃ ᐃᒫᒃ ᓯᕗᓂᑦᑎᓐᓂ ᐊᔾᔨᒋᓚᓐᓂᐊᕐᒪᐅᒃ ᐊᓂᒍᕐᑐᑦ ᖁᓖᑦ ᐊᕐᕌᒍᑦ, ᑕᒪᓂ ᐱᑕᕐᑲᕐᒪᑦ ᓇᓗᓇᖕᒋᒍᑎᓂᒃ ᓇᒦᓐᓂᖏᑕᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐅᕐᑐᓂᒃ, ᐊᒻᒪ ᐃᒫᒃ ᑕᒪᒃᑮᑦ *K* ᐊᒻᒪ r_{max} ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓚᖓᓪᒪᑕ ᓲᒃᑲᐃᑦᑐᒥᒃ ᓯᕗᓂᑦᑎᓐᓂ. ᑕᑯᓐᓇᖕᒍᐊᕐᑕᖅ 3 ᐱᑕᓕᒃ ᒪᓐᑑᓐᓂᒃ ᐱᐅᖕᒋᑦᑑᓐᓂᒃ ᐱᑕᕐᑲᕐᑐᓂᒃ ᒫᓂ ᓂᕆᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᕐᔪᐊᖓᓂ ᓇᓄᕐᑲᐅᕐᑐᒥ. ᑕᑯᓐᓇᖕᒍᐊᕐᑕᖅ 3a ᐃᓚᕐᑲᕐᑐᖅ ᐊᖏᔪᒥ ᖃᓃᑦᑑᑕᐅᓂᖏᑕ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓂᖏᑦ ᒫᓂ r_{max} ᑮᒍᓕᕐᑲᕐᑐᒍ ᓲᒃᑲᐃᑦᑐᒥᒃ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓂᖏᑦ ᑕᒪᒃᑭᓐᓂ *K* ᐊᒻᒪ r_{max}. ᑕᑯᓐᓇᖕᒍᐊᕐᑕᖅ 3b ᐊᓚᒃᑲᐃᔪᖅ ᓇᓄᕐᑲᐅᕐᑐᓂ ᐃᒫᒃ ᐃᓱᒪᒋᔭᐅᓪᓗᓂ ᐊᔪᖕᒋᑎᐊᖏᑦ ᐊᖏᔪᒥᒃ ᐊᒥᓱᕋᕐᐸᓪᓕᐊᓂᖏᑦ ᑭᓱᐊᓂ ᐊᑐᕐᑐᑎᒃ ᓴᑲᑦᑐᒥᒃ ᐊᒻᒪ ᑐᑭᓕᐊᖕᒋᑐᒥᓂᒃ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓂᖏᑦ ᒫᓂ *K*.

ᐊᑐᓂᑦ ᐆᒪᔫᓂᖏᓐᓂᒃ ᑕᑯᓐᓇᖕᒍᐊᕈᑏᑦ, ᐊᑐᓚᐅᕐᑐᒍᑦ ᓇᒦᓐᓂᖏᓐᓂᒃ ᐆᑦᑐᕋᐅᒥᒃ ᐊᓚᒃᑲᕐᑐᕆᑦ ᐆᑦᑐᕋᐅᑏᑦ ᓇᓄᕐᑲᐅᕐᑐᓂ ᓯᕗᒧᑦ ᑖᒪᓂ ᐃᓱᒪᒋᓪᓗᒋᑦ ᐊᒥᓱᑦ ᐊᕐᓇᕐᓗᐃᑦ ᐊᖕᒍᑕᐅᕙᑦᑐᑦ ᐊᑯᓚᐃᓐᓂᖏᑦ. ᒥᒃᓴᐅᓴᒍᑏᑦ ᑲᒪᒋᔭᐅᓚᐅᕐᑐᑦ 35ᓄᑦ ᐊᕐᕌᒍᓄᑦ, ᑕᒪᓐᓇ ᐊᔾᔨᓚᓪᓚᖓ ᐃᒫᓪᓗᐊᓚᓚᒃ ᐱᖓᓱᑦ ᓇᓄᕐᓄᑦ ᐊᕐᕌᒍᕐᑲᑎᒌᓄᑦ ᐊᒻᒪ ᐱᑕᕐᑲᕋᔪᕐᑐᖅ ᐱᕕᑦᓴᐅᔪᒥᒃ ᐱᓗᐊᑦᑕᐃᓕᓂᕐᒥᒃ ᖃᐅᔨᓴᕐᓗᓂ (Regehr ᐊᓯᖏᓪᓗ 2016). ᕿᒥᒡᒋᓚᐅᕐᑐᒍᑦ ᐊᑦᑐᐃᓂᖏᓐᓂᒃ ᐊᖕᒍᑕᐅᔪᑦ ᑖᒪᓂ ᐱᖓᓱᓂ ᐱᑕᕐᑲᕈᓐᓇᕐᑐᓂ ᐊᓯᐊᒎᕈᑎᓂ ᓇᓄᕐᑲᐅᕐᑐᓂᒃ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᑐᕋᖓᐅᔪᓂᒃ: (1) ᓱᕐᕋᖏᓪᓗᒋᑦ ᓇᓄᕐᑲᐅᕐᑐᓂ ᐊᒥᓲᓂᖏᑦ ᐃᒫᒃ ᑎᑭᒍᑕᐅᔪᑦ ᐊᒥᓲᓂᕐᐹᓂᒃ ᓄᖑᑦᓯᕙᓪᓕᐊᓕᖏᓪᓗᓂ ᐱᔭᐅᒍᓐᓇᕐᑐᓂᒃ, ᐱᓪᓗᒋᑦ ᐱᑕᕐᑲᑐᐃᓐᓇᓇᐊᓖᑦ ᐊᔾᔨᔾᔨᕐᓂᖏᑦ *K*; (2) ᓱᕐᕋᖏᓪᓗᒋᑦ ᓱᕐᕋᐸᓪᓕᐊᖏᑦᑐᑦ ᓇᓄᕐᑲᐅᕐᑐᓂ ᖃᑦᓯᐅᓂᖏᑦ; ᐊᒻᒪ (3) ᓱᕐᕋᖏᓪᓗᒋᑦ ᓇᓄᕐᑲᐅᕐᑐᓂ ᖃᑦᓯᐅᓂᖏᑦ ᐊᒥᓲᓂᕐᓴᑦ ᐃᓄᐃᓴᓂᕐᐹᓂ ᐱᒋᐊᕈᑕᐅᔪᑦ, ᐃᓄᐃᓴᓂᕐᓴᑦ ᑖᒃᑯᐊ ᐊᐅᓚᓂᖏᑦ ᐊᒻᒪ ᐊᔪᖕᒋᓐᓂᖏᑦ ᓇᓄᕐᑲᐅᕐᑐᓂ ᓈᒻᒪᒍᓐᓃᕈᑕᐅᓗᔭᕐᑐᑦ. ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᑐᕋᖓᐅᔪᖅ 3 ᐱᐅᓯᕐᑲᕋᓯᐊᖕᒋᑦᑐᖅ ᐆᑦᑐᕋᑕᐅᓗᓂᒥ ᓄᖑᑦᓯᕙᓪᓕᐊᖏᓪᓗᓂ, ᑭᓱᐊᓂ ᓇᓗᓇᐃᕐᓗᒍ ᑖᒪᓂ ᓇᓄᕐᑲᐅᕐᑐᓂ ᓄᖑᓚᔭᓇᐊᖏᑕ ᑎᑭᐅᑎᓗᒍ ᐃᒫᒃ ᑐᐊᕕᕐᓇᕐᑐᒥᒃ ᐊᐅᓚᑦᓂᕐᒧᑦ ᑲᒪᒍᓯᐅᔪᑦ ᐱᑕᕐᑲᓇᐊᕐᑲᓕᕐᓗᑎᒃ. ᐱᑕᕐᑲᕐᑎᑉᐸᕗᑦ ᐱᑕᕐᑲᑐᐃᓐᓇᓇᐊᓖᑦ ᑎᑭᓚᓯᐊᕐᓗᒋᑦ ᐱᖓᓱᑦ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᑐᕋᖓᐅᔪᑦ ᐊᒥᓱᓂ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᑲᒪᔾᔪᑎᐅᔪᓂ, ᐃᒪᐃᖕᒋᖖᒑᕐᓗᒍ ᑐᓂᑐᐃᓐᓇᕐᓗᒋᑦ ᖃᐅᔨᔭᑦ ᐃᓄᐃᓴᓐᓂᕐᓴᓂᒃ ᐊᖑᓇᓱᓚᕐᓴᓂᒃ ᑲᒪᔾᔪᑎᐅᔪᑦ ᒪᓕᑐᐃᓐᓇᕐᑐᑦ ᐃᓱᒪᒋᔭᐅᓂᑯᓂᒃ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᓐᓂᒃ ᐅᓗᓇᐊᓇᕈᑏᑦ (ᓲᕐᓗ, ᒪᓕᑐᐃᓐᓇᕐᑐᑦ ᓇᓗᓇᐃᕐᑕᓂᒃ ᐱᑕᕐᑲᑐᐃᓐᓇᓇᐊᓕᓐᓂᒃ ᐱᔭᓇᕐᓗᖏᑦ ᑐᕋᖓᐅᔪᑦ).

ᐊᔾᔨᐅᕆᓇᕐᑕᕗᑦ ᖃᐅᔨᔭᑦ ᐱᖓᓱᓂ ᐆᒪᔫᓂᖏᓐᓂᒃ ᑕᑯᓐᓇᖕᒍᐊᕐᑕᓂ ᑕᑯᓇᕐᓗᑦ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᑲᒪᔾᔪᑎᐅᔪᑦ ᐱᑕᓖᑦ 80% ᐱᑕᕐᑲᑐᐃᓐᓇᓇᐊᓕᒻᒥᒃ ᐱᔭᓇᕐᓗᒍ ᐊᐅᓚᑦᓯᓂᕐᒧᑦ ᑐᕋᖓᐅᔪᖅ 1 (ᓲᕐᓗ, ᑐᕐᕋᖏᓪᓗᒋᑦ ᓇᓄᓇᐅᕐᑐᓂᒃ ᖃᑦᓯᐅᓂᖏᑦ ᑎᑭᒍᑕᐅᔪᑦ ᐊᒥᓲᓂᕐᐹᓂᒃ ᓄᖑᑦᓯᕙᓪᓕᐊᖏᓪᓗᓂ ᐱᔭᐅᒍᓐᓇᕐᑐᑦ). ᐊᐅᓚᑦᓯᓂᕐᒧᑦ

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ

ᑐᕋᒐᐅᔪᖅ 1 ᓈᒻᒪᕙᐊᕐᑐᖅ ᐃᓪᓗᕖᓕᕐᑎᓪᓗᒋᑦ ᓇᓄᖃᐅᕐᑐᓂ ᓴᐳᒻᒥᒍᑏᑦ ᑲᔪᓯᓗᑎᒃ ᐱᕚᓪᓴᐅᔪᑦ ᐊᑐᕐᑕᐅᓗᑎᒃ, ᐊᒻᒪᓗ 80% ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᒃ ᐊᑯᖕᒐᓂ "ᐃᓄᐃᓴᑦᑐᑦ" ᐊᒻᒪᓗ "ᕿᑎᖕᒐᓃᑦᑐᑦ" ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ ᐅᓗᕆᐊᓇᕈᑏᑦ ᐃᒫᒃ ᐊᑐᕐᑕᐅᓯᒪᔪᑦ ᐅᕙᓂ ᐊᐅᓚᕙᓂᕐᒧᑦ ᑐᕋᒐᐅᔪᖅ 1 ᐊᓯᖏᓐᓂᒃ ᐊᖑᓇᓱᒐᖅᓯᓂᒃ ᖃᐅᔨᓴᕐᓂᕐᓂ (Regehr ᐊᓯᖏᓪᓗ 2017a, 2018a). ᓱᓕᑦᑕᐅᖅ, ᐊᖑᓇᓱᓐᓂᒧᑦ ᑲᒪᔾᔪᓯᐅᔪᑦ ᓈᒻᒪᑦᑐᑦ ᑖᒃᑯᓇᓂ ᐊᓚᒃᑲᕐᑐᓂ ᐊᑕᓚᐅᕐᑐᑦ ᐃᓄᐃᓴᑦᑐᓄᑦ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᓐᓄᑦ ᓱᖁᒥᕙᓗᓂ ᐊᐅᓚᕙᓂᕐᒧᑦ ᑐᕋᒐᐅᔪᒥᒃ 3 ᐅᕝᕙᓘᓐᓃᑦ ᐃᓄᐃᓴᓪᓕᕆᐊᕐᓗᒋᑦ ᓱᕗᓂᑦᑎᓐᓂ ᓄᖑᕙᕙᓪᓕᐊᖏᓪᓗᓂ ᐱᔭᐅᒍᓇᕐᑐᑦ ᐱᔪᖃᓗᐊᕐᓂᕐᐸᑦ. ᑕᑯᓇᖖᒍᐊᕐᑕᒥ 1, ᐃᓚᒋᓕᐅᓯᒪᔪᑦ ᐊᖑᓇᓱᓐᓂᒧᑦ ᑲᒪᔾᔪᑎᐅᔪᖅ ᐱᑕᖃᓚᐅᕐᑐᖅ ᐅᓪᓗᒥ ᐊᖑᓇᓲᒃᑕᐅᔪᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᓐᓂᒃ ᐃᒫᒃ 21 ᐊᕐᓇᕐᓗᐃᑦ ᓇᓄᐃᑦ/ᐊᒃᕋᒧᒥ. ᑖᓇ ᐊᔾᔨᒐᓚᖕᒐ ᕿᑎᖕᒐᓃᒧᑏᑦ ᖃᐅᔾᔭᑦ ᐊᖖᒍᑕᐅᕙᑦᑐᑦ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓱᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᒥ ᐃᒫᓪᓗᐊᒐᓚᒃ 19 ᐊᕐᓇᕐᓗᐃᑦ/ᐊᒃᕋᒧᒥ ᓇᓪᓕᐊᓯᒪᔪᒥ 1986-2016, ᑕᒪᓐᓇ ᑐᑭᓕᒃ ᐃᓱᒪᒋᓗᒍ ᑕᑯᓇᖖᒍᐊᕐᑕᖅ 1 ᑐᖕᒐᕙᖃᓚᐅᕐᒪᑦ ᒥᒃᓴᐅᓴᒍᒻᒥᒃ ᐃᒫᒃ ᓱᕗᓂᑦᑎᓐᓂ ᐊᔾᔨᒋᒐᓚᓐᓂᐊᕐᒪᐅᒃ ᐊᓂᒍᕐᑐᒥ. ᑕᑯᓇᖖᒍᐊᖓᕐᑕᒥ 2, ᐱᒋᐊᕈᑕᐅᓚᐅᕐᑐᖅ ᐊᖑᓇᓱᒐᖅᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ ᐃᒫᑎᒋ 10 ᐊᕐᓇᕐᓗᐃᑦ ᓇᓄᐃᑦ/ᐊᒃᕋᒧᒥ. ᐃᓱᒪᒋᓗᒍ ᐃᒫᒃ ᐃᓚᖏᑦ ᐊᕐᓇᕐᓗᐃᑦ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓱᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖃᐅᕐᑐᒥ ᐃᒪᐃᓪᓗᐊᕐᒪᑕ ᒫᓐᓇ 0.50, ᑕᒪᓐᓇ ᐊᔾᔨᒋᒐᔭᕐᑕᖓ ᑲᑎᑦᑐᒋ (ᓅᕐᓗ, ᐊᕐᓇᕐᓗᐃᑦ ᐊᒻᒪᓗ ᐊᖑᓴᓪᓗᐃᑦ) ᐊᖑᓇᓱᒐᖅᑦ ᐋᕿᓯᒪᒍᑎᖏᑦ ᐃᒫᓪᓗᐊᒐᓚᒃ 3.8% ᐊᖖᒍᑕᐅᔪᑦ ᐊᑐᕐᐸᑕ ᒪᑐᒥᖓ 2:1 ᐊᖑᓴᓪᓗᐃᓪ–ᐊᕐᓇᓗᓐᓄᑦ ᐋᕿᓯᒪᒍᑏᑦ. ᖃᐅᔨᒋᐊᕐᓗᒍ, ᑖᓇ ᐊᐸᐸᓱᓐᓂᖅᓴᒐᓛᒃ 4.5% ᐋᕿᓯᒪᒍᑏᑦ ᐅᕙᓂ 2:1 ᐊᖑᓴᓪᓗᐃᓪ–ᐊᕐᓇᓗᓐᓄᑦ ᐋᕿᓯᒪᒍᑏᑦ ᐃᓱᒪᒋᔭᐅᓯᒪᔪᑦ ᓄᖑᕙᕙᓪᓕᐊᓂᐅᖖᒋᒋᐊᖏᑦ ᐊᑖᒍᑦ ᓈᒻᒪᒋᔭᐅᓂᖅᑦ ᐊᕙᑖᓂ ᖃᓄᐃᓐᓂᖏᓐᓂ (Taylor ᐊᓯᖏᓪᓗ 1987). ᑕᑯᓇᖖᒍᐊᕐᑕᒥ 3a, ᐱᒋᐊᕈᑕᐅᔪᖅ ᐊᖑᓇᓱᒐᖅᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᓐᓄᑦ ᐃᒪᐃᑦᑑᓚᐅᕐᑐᖅ 4 ᐊᕐᓇᕐᓗᐃᑦ ᓇᓄᐃᑦ/ᐊᒃᕋᒧᒥ. ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᒃ ᓱᕐᑯᒥᑕᐅᓗᓂ ᐊᐅᓚᕙᓂᕐᒧᑦ ᑐᕋᒐᐅᔪᖅ 3 ᐊᒥᓱᕈᕆᐊᕈᑕᐅᓚᐅᕐᑐᖅ ᐱᒋᐊᕈᑕᐅᔪᓂᒃ ᐊᖑᓇᓱᒐᖅᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᓐᓄᑦ ᐃᒫᑎᒋ 8 ᐊᕐᓇᕐᓗᐃᑦ ᓇᓄᐃᑦ/ᐊᒃᕋᒧᒥ, ᐊᒻᒪᓗ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᒃ ᓄᖑᕙᐊᒻᒪᕆᓪᓗᑎᒃ ᑕᒫᓂ ᐊᒥᓱᕈᕆᐊᕐᐸᑕ ᐱᒋᐊᕈᑕᐅᔪᑦ ᐊᖑᓇᓱᒐᖅᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ ᐃᒫᑎᒋ 18 ᐊᕐᓇᕐᓗᐃᑦ ᓇᓄᐃᑦ/ᐊᒃᕋᒧᒥ. ᑕᑯᓇᖖᒍᐊᕐᑕᖅ 3a ᐊᓚᒃᑲᐃᔪᖅ ᐱᑕᖃᑐᐃᓐᓇᕆᐊᓕᒻᒥᒃ ᐃᓚᖖᒐᐃᔭᓗᐊᕐᑕᐅᓗᑎᒃ ᒪᑯᐊ ᓇᓄᖃᐅᕐᑐᑦ ᐊᒥᓱᕈᕐᐸᓪᓕᐊᒍᓐᓇᕐᓂᖏᑦ ᓈᒻᒪᒍᓐᓃᕐᐸᑦ ᖃᓂᒌᑦᑐᑕᐅᓗᐊᕐᓂᖏᓐᓄᑦ–ᐃᒻᒥᒃᑯᑦ ᑭᓪᓕᖏᑦ. ᐊᓯᐊᒍᓪᓕ, ᓇᓄᖃᐅᕐᑐᒥ ᐊᓚᒃᑲᕐᑐᑦ ᐅᕙᓂ ᑕᑯᓇᖖᒍᐊᕐᑕᖅ 3b ᐃᒪᐃᑦᑑᓚᐅᕐᑐᖅ ᖃᓄᐃᓚᐅᖖᒋᑦᑐᑦ ᐊᖑᓇᓲᒃᑕᐅᓂᖏᑦ. ᑕᒪᓐᓇ ᐱᔾᔪᑎᓕᒃ ᓱᑲᑦᑐᒥᒃ ᐊᒻᒪᓗ ᑐᕋᖃᕐᓗᐊᕋᑎᒃ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᓂᖏᑦ ᒪᓂ K ᓇᓗᓇᐃᕐᑕᑦ ᐃᒫᒃ ᖃᑦᓯᐅᓂᖏᑦ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᕋᔭᕐᒪᑕ, ᐊᒻᒪᓗ ᐱᐅᓯᕐᒥᒧᑦ ᑐᕐᑯᕋᕐᓂᖏᑦ ᐱᔾᔪᑕᐅᓪᓗᑎᒃ ᖃᓂᒌᑦᑐᑕᐅᓂᖏᑕ ᐊᑦᑐᐃᓂᖏᑦ ᐊᖏᔪᒥᒃ ᑕᐅᕐᓯᕐᑕᐅᒍᓐᓇᕐᒪᑦ ᐊᖑᓇᓱᓐᓂᕐᒥᒃ ᐱᑕᖅᑎᓐᓇᒍ ᐊᖏᓪᓕᒋᐊᕐᓗᒍ ᓇᓄᖃᐅᕐᑐᒥ ᐃᓄᐃᓴᓪᓕᕙᓪᓕᐊᔪᑦ. ᐃᓅᒃ ᑕᑯᓇᖖᒍᐊᕐᑕᑦ 3a ᐊᒻᒪᓗ 3b ᑕᒪᒃᑮᑦ ᐱᔭᓇᐊᕿᓪᓕᑎᕐᓯᒪᔩᒐᓗᐊᑦ ᖃᓄᑎᒋ ᓱᑰᑉ ᐊᓯᐅᓂᖕᒐ ᐊᑦᑐᐃᒐᔭᕐᒪᖖᒌᑦ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓱᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᐃᕐᓂᒃ ᓇᓄᖃᐅᕐᑐᒥ, ᐊᓚᒃᑲᐃᔪᑦ ᐱᒻᒪᕆᐅᓂᖕᒐᓂᒃ ᑕᒪᒃᑯᐊ ᐊᑦᑐᐃᓂᖏᑦ ᓇᔪᒐᐃᑦ ᐊᓯᔾᔨᕐᓂᖏᓐᓂᒃ ᐱᔾᔪᑎᖃᓗᐊᕐᒪᖔᑕ ᖃᓂᒌᑦᑑᑎᓂᒃ ᐃᒻᒥᒃᑯᖕᒐᔪᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᖃᓂᒌᑦᑑᑏᑦ ᐃᒻᒥᒃᑯᖕᒐᔪᑦ. ᒫᓇᓕ, ᑎᑎᕋᕐᓯᒪᔪᑦ ᐊᑐᐃᓐᓇᐅᖏᑦᑐᑦ ᐊᔾᔩᖏᓕᕐᑎᓪᓗᒋᑦ ᒪᑯᐊ ᖃᓂᒌᑦᑑᑕᐅᓂᖏᑦ ᐃᒻᒥᒃᑰᕐᑐᑦ ᐊᒻᒪᓗ ᖃᓂᒌᑦᑑᑕᐅᓂᖏᑦ–ᐃᒻᒥᒃᑰᕐᑐᑦ

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ

ᐊᑦᑐᐃᓂᖏᑦ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᕐᓂᒃ, ᐊᒻᒪᓗ ᑕᒪᓐᓇ ᖃᐅᔨᓴᕐᕕᐅᖏᓐᓇᖅᑐᖅ ᓇᓄᕐᓂᒃ ᖃᓄᑐᐃᓐᓇᖅ.

ᑲᒪᒋᔭᕗᑦ ᐃᓱᒪᒋᓪᓗᒋᑦ ᐊᒥᓱᑦ ᐆᒪᔫᓂᖏᓐᓂᒃ ᑕᑯᓐᓇᙳᐊᕈᑏᑦ, ᐊᐅᓚᓯᓂᕐᒧᑦ ᑐᕌᒐᐅᔪᑦ, ᐊᒻᒪᓗ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᑲᒪᔾᔪᓯᐅᔪᑦ ᓈᒻᒪᓂᖅᓴᐅᒻᒪᑕ ᑐᑭᓯᓇᖅᑐᒥᒃ ᐊᓚᒃᑲᖅᑐᒋᑦ ᖃᐅᔨᓴᖅᑎᒻᒪᕆᑦ ᓇᓗᓂᖏᑦ ᐊᒻᒪᓗ ᐱᑕᖃᖅᑐᓂ ᐊᐅᓚᓯᓂᕐᒧᑦ ᓴᙱᓂᐅᔪᓂᒃ ᐱᓪᓗᒋᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᑐᓴᕐᓴᑦ ᐊᑭᐊᓂ ᑖᒃᑯᐊ ᑐᕌᖅᑕᐅᔪᑦ ᕿᒥᒃᕈᔭᐅᒍᓐᓇᖅᓂᖏᑕ. ᑭᓯᐊᓂ, ᑐᕌᙱᑦᑐᖅ ᐊᑐᓕᖅᑯᔮᓂᕐᒥᒃ ᓇᓗᓇᐃᖅᑕᓂ ᐊᐅᓚᓯᓂᕐᒧᑦ ᑲᒪᔾᔪᑎᐅᔪᓂᒃ ᐱᔾᔪᑕᐅᓪᓗᓂ ᑕᒪᓐᓇ ᐱᑕᖃᓇᐊᖅᑲᕿᔭᖅᓂᖓ ᓇᓗᓇᐃᖅᓗᒋᑦ ᓇᓗᓇᐃᖅᑕᑦ ᐊᐅᓚᓯᓂᕐᒧᑦ ᑐᕌᒐᐅᔪᑦ, ᑖᒃᑯᐊ ᐅᓪᓗᒥᒧᑦ ᐱᑕᖃᖅᓯᒪᙱᑦᑐᑦ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᒥ. ᕿᒥᒃᕈᓪᓗᒋᑦ ᐆᒪᔫᓂᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᖅᑐᑦ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ, ᐊᑲᐅᓯᓇᕙᕗᑦ ᓯᕗᓪᓕᖅᒥᒃ ᖃᐅᔨᒪᓕᔅᓴᖅᑐᒍ ᑕᑯᓐᓇᙳᐊᕗᖅ 2 ᐊᖏᓗᐊᙱᑦᑐᒥᒃ ᐅᓗᕆᐊᓇᖅᓂᖓ ᐊᑐᖅᑕᐅᒍᓐᓇᖅᑐᖅ ᐱᓪᓗᒍ ᐊᐅᓚᓯᓂᕐᒧᑦ ᑐᕌᒐᐅᔪᖅ 1. ᑕᒪᓐᓇ ᓇᓗᓇᐃᖅᓯᕙᔭᖅᑐᖅ ᐊᖅᓇᓗᓐᓂ ᐊᖑᓇᓱᓪᓗᓂ ᐊᑯᓚᐃᓐᓂᖏᓐᓂᒃ ᖃᓂᒋᔭᖓᓂ ᒪᑐᒪ *h* = 0.02-0.03, ᑖᓐᓇ ᐊᔾᔨᖓ ᐱᒋᐊᖅᓗᓂ ᐊᖑᓇᓱᒐᔅᑦ ᖃᓄᐃᓪᓗᐊᖅᓂᖏᓐᓂᒃ ᐃᒫᑎᒋ 8-12 ᐊᖅᓇᖅᓗᐃᑦ ᓇᓄᐃᑦ/ᐊᕐᕌᒍᒥ. ᑕᓐᓇ ᐊᔾᔨᖓ ᐅᑯᐊ ᑲᑎᑦᑐᒋᑦ (ᓵᖅᓗ, ᐊᖅᓇᖅᓗᐃᑦ ᐊᒻᒪᓗ ᐊᖑᓴᓪᓗᐃᑦ) ᐊᖑᓇᓱᒐᔅᑦ ᖃᓄᐃᓪᓗᐊᖅᓂᖏᑦ ᐃᒫᓪᓗᐊᒐᓚᒃ 2.0-3.0% ᐃᓱᒪᒋᓗᒍ 1:1 ᐊᖑᓴᓪᓗᐃᑦ–ᐊᖅᓇᓗᓐᓄᑦ ᐋᖅᑭᓯᒪᒍᑦ ᐊᖑᓇᓱᓪᓗᓂ ᐅᕝᕙᓘᓐᓃᑦ ᐃᒫᓪᓗᐊᒐᒃ 3.0-4.5% ᐃᓱᒪᒋᓗᒍ 2:1 ᐊᖑᓇᓪᓗᐃᑦ–ᐊᖅᓇᓗᓐᓄᑦ ᐋᖅᑭᓯᒪᒍᑦ.

ᐊᖅᓇᓗᓐᓂᒃ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᐋᖅᑭᓯᒪᒍᑦ ᖃᐅᔨᓂᐅᒐᓱᐊᓗᐊᖅᑐᖅ ᐃᒪᐃᒻᒪᖔᑦ ᐃᓱᓴᒋᓗᒍ ᐊᖑᓇᓱᓪᓗᓂ ᑲᒪᔾᔪᑎᐅᔪᖅ ᓄᖕᒎᓯᕙᓪᓕᐊᓂᐅᙱᒻᒪᖔᑦ, ᐱᔾᔪᐅᓪᓗᓂ ᐊᖅᓇᖅᓗᐃᑦ ᓇᓄᐃᑦ ᐱᒻᒪᕆᐅᓂᖅᓴᐅᒻᒪᑕ ᐱᑕᖃᖅᑐᑦ ᐊᒥᓱᕈᖅᐸᓪᓚᐊᓂᖏᓐᓄᑦ (Eberhardt 1990). ᑐᙵᕕᒋᓗᒋᑦ ᓯᕗᓪᓕᕐᓂᒃ ᖃᐅᔨᓴᕈᑏᑦ ᑭᓲᓂᖏᓐᓂᒃ–ᓂᕈᐊᖅᓗᓂ ᐊᖑᓇᓱᓐᓂᐅᑉ (Taylo4 ᐊᓯᖏᓪᓗ 2008; Regehr ᐊᓯᖏᓪᓗ 2017b) ᐊᑲᐅᓯᓇᕙᕗᑦ ᐃᒫᒃ ᐊᖅᓇᓗᓐᓂᒃ ᐊᖑᓇᓱᓐᓂᖅᑦ ᒫᓂ 0.02-0.03 ᐃᓚᖃᖅᑐᒋᑦ 2:1 ᐊᖑᓴᓪᓗᐃᑦ–ᐊᖅᓇᓗᓐᓄᑦ ᐋᖅᑭᓯᒪᒍᑦ ᐃᒪᐃᔭᕙᓪᓚᐃᖏᒻᒪᑦ ᓄᖕᒎᓯᒍᑕᐅᓗᓂ ᐊᖑᓴᓪᓗᓐᓂᒃ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᒥ, ᐃᒪᐃᑉᐸᑦ ᐊᖅᓇᓗᓐᓂᒃ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᐊᑯᓚᐃᓐᓂᖏᑦ ᐊᓂᐃᓴᓐᓂᖅᓴᐅᑉᐸᑕ ᐊᒥᓲᓂᖅᓴᓂᒃ ᓄᖕᒎᓯᕙᓪᓚᐊᖏᓪᓗᓂ ᐱᔭᐅᒍᓐᓇᖅᑐᓂᒃ ᐱᓪᓗᒋᑦ ᐊᖅᓇᖅᓗᐃᑦ ᓇᓄᖅᑲᐅᖅᑐᒥ (Taylor ᐊᓯᖏᓪᓗ 2008; Regehr ᐊᓯᖏᓪᓗ 2017b). ᑭᓯᐊᓂ, ᐊᔪᓚᐅᖅᑐᒍᑦ ᓇᒻᒥᓂᖅ ᕿᒥᒃᕈᓂᖅᓯᒥᒃ ᐆᒪᔫᓂᖏᓐᓄᑦ ᐊᑦᑐᐃᔪᓂᒃ ᑭᓲᓂᖏᓐᓂᒃ–ᓂᕈᐊᖅᓗᓂ ᐊᖑᓇᓱᓐᓂᕐᒥᒃ ᐱᔾᔪᑕᐅᓪᓗᓂ ᕿᒥᒃᕈᓂᖅ ᑖᒃᑯᓂᖓ ᐅᓂᒃᑳᓂᒃ ᐱᔾᔪᑎᖃᓚᐅᙱᒻᒪᑦ ᐊᖅᓇᖅᓗᐃᓐᓇᖅᓂᒃ ᓇᓄᕐᓂᒃ. ᑕᒪᓐᓇ ᐱᑕᖃᓇᐊᖅᑲᓚᐅᖅᑐᖅ ᐱᔾᔪᑕᐅᓪᓗᓂ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᖅᓃᑦ, ᐊᖏᓂᖅᐹᖅ ᖃᐅᔨᓴᖅᑐᓂ ᑲᒪᒍᓯᐅᔪᖅ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓯᐅᔭᖅᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᖅᑐᒥ ᐊᓂᒍᖅᑐᓂ ᖁᓚᓂ ᐊᕐᕌᒍᓂ, ᐱᑕᖃᒃᑲᐃᒍᓐᓇᖅᒪᑦ ᓯᓚᔪᓂᒃ ᒥᒃᓴᐅᓴᒍᑎᓂᒃ ᑲᑎᑦᑐᒋᑦ ᖃᓄᐃᓪᓗᐊᖅᒪᖔᑕ ᑭᓯᐊᓂ ᐱᑕᖃᕋᓂ ᓈᓴᐅᑎᓂᒃ ᓇᓄᖅᑲᐅᖅᑐᑲᑦ ᖃᓄᐃᓚᖓᓂᖏᓐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᐊᑐᓗᐊᖅᑐᓂᒃ ᐱᑕᖃᓇᐊᓕᓐᓂᒃ ᐆᑦᑐᕋᖅᓗᓂ ᐊᖅᓇᓗᓐᓂᒃ ᐊᒻᒪᓗ ᐊᖑᓴᓪᓗᓐᓂᒃ ᐊᑕᐅᓯᒃᑯᑦ.

ᕿᑎᖓᓃᒍᑦ ᐊᖑᓇᓱᓪᓗᓂ ᑲᒪᔾᔪᓯᐅᔪᓄᑦ ᓇᓗᓇᐃᖅᓯᔪᖅ ᖁᓪᓚᓃᑦᑐᑦ ᐃᑲᔪᖅᐸᓪᓚᐃᒻᒪᑕ ᐃᓄᐃᓴᓪᓚᑐᒋᑦ ᐊᓯᐅᔨᔭᑦ ᐱᕕᑦᓴᑦ ᓂᖅᑭᑦᓴᓂᒃ ᐊᑐᖅᑕᐅᓂᖏᑦ ᐱᑕᖃᖅᑐᑦ ᐃᒪᐃᑦᑑᓂᖅᓴᐅᑉᐸᑕ ᑕᑯᓐᓇᙳᐊᖅᑕᖅ 1, ᒥᑭᓪᓕᒋᐊᖅᑐᒋᑦ ᐱᕕᑦᓴᐅᔪᑦ ᐊᖏᔪᒥᒃ ᐃᓚᙳᐃᔭᐃᓗᐊᖅᓂᕐᒥᒃ ᐱᑕᖃᖅᑐᑦ ᐃᒪᐃᑦᑑᓂᖅᓴᐅᑉᐸᑕ ᑕᑯᓐᓇᙳᐊᖅᑕᖅ 3a. ᐱᓚᓇᓗᓂ

ᐊᖓᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖏᑦ

ᐱᒋᐊᕐᓂᖓᓂᒃ ᐊᕐᓇᕐᓗᓐᓂᒃ ᐊᖑᓇᓱᒐᖕᖏᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ ᒫᓂ 0.02-0.03, ᑐᓴᕋᖕᖏᑦ ᑐᓂᔾᑦ ᐅᕙᓂ ᐅᓂᒃᑳᓂ ᐃᑲᔪᕈᓐᓇᕐᑐᑦ ᐊᐅᓚᑦᖅᓯᓂᕐᒧᑦ ᓴᖅᑭᓂᓖᑦ ᐅᕐᑯᒪᐃᑎᖅᓯᓗᑎᒃ ᐱᐅᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐱᐅᙱᓐᓂᖏᓐᓂᒃ ᐃᓄᐃᓴᓐᓂᕐᓴᑦ ᐊᒻᒪᓗ ᐊᒥᓲᓂᕐᓴᑦ ᐊᖑᓇᓱᒐᖕᖏᑦ ᐃᓱᒪᒋᓗᒋᑦ ᐆᒪᔫᓂᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᕈᑏᕐ, ᐱᕕᖕᖓᐅᔪᑦ ᐊᑐᕐᑕᕐ, ᐊᒻᒪᓗ ᐊᓯᖏᑦ ᐃᓱᒪᒋᔾᑦ (ᓱᕐᓗ, ᐃᓄᐃᑦ ᐅᓗᕆᐊᓇᕐᑐᒦᓐᓂᖏᕐ). ᓱᓕᑦᑕᐅᖅ, ᐊᔾᔨᓱᐅᕐᓗᒋᑦ ᓯᕗᓂᑦᑎᓐᓂ ᓇᒦᓐᓂᖏᓐᓂᒃ ᓈᓴᐅᑏᑦ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓱᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᕐᑐᒥ ᐊᑭᐊᓂ ᐆᒪᔫᓂᖏᓐᓄᑦ ᑕᑯᓐᓇᙳᐊᕐᑕᑦ ᐅᕙᓂ ᐅᓂᒃᑳᓂ ᐃᑲᔪᕈᓐᓇᕐᑐᖅ ᑐᑭᓯᓗᓂ ᖃᓄᖅ ᓇᔪᕐᓂᒃ ᐊᓯᐅᔨᓂᖏᑦ ᐊᑦᑐᐃᒻᒪᖔᑕ ᓇᓄᖅᑲᐅᕐᑐᒥᒃ ᐊᒻᒪᓗ, ᐊᖏᓪᓕᒋᐊᕐᓗᒍ, ᓇᓪᓕᐊᒃ ᑕᑯᓐᓇᖑᐊᕐᑕᖅ ᐊᑑᑎᖃᕐᓂᕐᐸᖑᒻᒪᖔᑦ ᐊᐅᓚᔪᓂᕐᒥ.

ᐃᓘᓐᓇᑎᒃ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᑲᒫᔪᓯᐅᔪᑦ ᐅᕙᓂ ᐅᓂᒃᑳᓂ ᒪᓕᑦᑐᑦ "ᓄᓇᒥᒃ–ᐊᑐᕐᓂᖏᓐᓂᒃ" ᐊᖑᓇᓯᒃᑕᓂᒃ ᐊᐅᓚᔪᓂᕐᒧᑦ ᑲᒪᒍᓯᐅᔪᖅ (Regehr ᐊᓯᖏᓪᓗ 2017b), ᐊᔾᔨᑯᓚᖓ ᐆᒪ "ᐊᓯᕈᒍᓐᓇᕐᑐᓂᒃ ᐊᐅᓚᔪᓂᖅ" ᑲᒪᒍᓯᐅᔪᖅ ᐊᑐᓕᕐᑯᔭᖓᑦ ᐅᕙᓂ ᓇᓄᐃᑦ ᐅᐸᖓᖏᑦ ᓄᓇᐃᑦ (2015). ᓄᓇᒥ–ᐊᑐᕐᓂᖏᓐᓂᒃ ᐊᐅᓚᔪᓂᖅ ᑐᑭᓕᒃ ᐃᒫᒃ ᐊᖑᓇᓱᒐᖕᖏᑦ ᖃᓄᐃᓪᓗᐊᕐᓂᖏᑦ ᐊᔾᔨᒌᑉᐸᑉᔾᔭᖏᒻᒪᑕ ᓯᕗᓂᑦᑎᓐᓂ, ᑭᓱᐊᓂ ᓄᑖᙳᓇᐊᕐᑕᐅᕙᑦᑐᑦ ᐃᓈᓐᓂᒃᑯᑦ ᐊᑐᕐᑐᒋᑦ ᓄᑖᑦ ᓈᓴᐅᑏᑦ ᐅᕙᖕᖓᒃ ᖃᐅᔨᓴᕐᑎᒪᓇᑦ ᖃᐅᔨᕐᓂᖏᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐊᓯᖏᑦ ᐱᕕᓴᑦ ᐱᓪᓗᒋᑦ ᒫᓇ ᖃᓄᐃᓕᕐᓂᖏᑦ (ᓱᕐᓗ, "ᓄᓇ") ᓇᓄᖅᑲᐅᕐᑐᓂ. ᑖᓇ ᐱᑕᖃᕆᐊᓕᒃ ᐃᓚᖅᑲᕐᓗᓂ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ–ᐊᐅᓚᔪᓂᕐᒧᑦ ᐋᕿᔪᒪᔪᒥᒃ ᐊᒻᒪᓗ ᓱᓕᔪᒥᒃ ᐊᙳᑕᐅᔪᓂᒃ ᖃᐅᔨᒪᓗᓯᐊᕐᓂᖅ. ᐱᓗᐊᕐᑐᒥᒃ, ᕿᒥᒃᑮᓂᕗᑦ ᐃᓱᒪᒍᑕᐅᓚᐅᕐᑐᖅ ᐃᒫᒃ ᓄᑖᑦ ᖃᖓᑕᔫᒃᑯᑦ ᖃᐅᔨᓴᕐᓃᑦ ᐱᔭᕇᕐᑕᐅᕙᓐᓂᐊᕐᒪᑕ ᑕᐃᒪᙵᑦ 5 ᐊᕐᕌᒍᑦ ᐊᓂᒍᕋᐃᑉᐸᑕ ᐱᑕᖅᑲᕐᓗᑎᒃ ᓱᓕᔪᓂᒃ ᐊᔾᔨᑯᓚᖅᑭᓐᓂᒃ 2012 ᐊᒻᒪᓗ 2016 (Obbard ᐊᓯᖏᓪᓗ 2015, 2018). ᐱᑕᖃᕐᐸᑦ ᓇᓗᓇᕈᒻᒥᒃ ᐊᔪᙱᓐᓂᖓᓂᒃ ᐊᑐᓕᕐᑎᑕᐅᓂᖓᑕ ᓄᓇᒥᒃ–ᐊᑐᕐᓂᖏᓐᓂᒃ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᐊᐅᓚᔪᓂᕐᒥᒃ ᑖᒃᑯᓇᓂ ᐱᑕᖃᕐᑐᓂ, ᐱᓗᐊᑦᑕᐃᓕᓂᖕᓴᐅᓗᓂ ᑲᒪᒍᓯᐅᔪᖅ ᐊᖑᓇᓱᓐᓂᕐᒥᒃ (ᓱᕐᓗ, ᐃᓄᐃᓴᓐᓂᖕᓴᐅᓗᒋᑦ ᐊᔪᙱᑕᑦ ᐊᖑᓇᓯᒃᑕᐅᓂᕐᒥᒃ) ᐱᑕᖃᕆᐊᖃᕋᔭᕐᑐᖅ ᒥᑭᔾᔪᒥᑎᒐᓱᐊᕐᓗᒍ ᐅᓗᕆᐊᓇᕈᑦ.

ᖃᐅᔨᔭᕗᑦ ᑐᑭᑖᕐᑕᐅᒋᐊᓖᑦ ᐅᔾᔨᑐᕋᓱᐊᕐᓗᓂ ᐱᔾᔪᑕᐅᓪᓗᑎ ᐃᓄᐃᓴᒃᑐᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑎᑎᕋᕐᓯᒪᔪᑦ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓱᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᕐᑐᒥ, ᐱᔭᕇᕐᓯᒪᙱᑦᑐᑦ ᑐᑭᓯᒪᓃᑦ ᖃᓄᖅ ᓱᑯᒥᒃ ᐊᓯᐅᔨᓂᖅ ᐊᑦᑐᐃᒻᒪᖔᑦ ᓇᓄᐃᑦ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐊᑐᕐᓂᖏᓐᓂᒃ ᐱᔭᕆᐊᑭᑦᑐᓂᒃ ᖃᓄᐃᓕᖓᓂᖏᓐᓂᒃ ᐆᑦᑐᕋᐅᑎᓂᒃ ᐃᓕᖅᑲᖏᑦᑐᓂᒃ ᐊᖑᓴᓪᓗᓐᓂᒃ ᓇᓄᕐᓂᒃ ᐅᕝᕙᓘᓐᓃᑦ ᓇᓗᓇᐃᔭᕐᓯᒪᔪᓂᒃ ᑲᒪᒍᓯᐅᔪᓂᒃ ᕿᑐᕐᖏᐅᕈᓯᖏᓐᓂᒃ. ᐆᑦᑐᕋᐅᑎᕗᑦ ᑲᒪᒋᔭᖅ ᐱᑕᖃᓚᐅᙱᑦᑐᖅ ᐊᑑᑎᓕᒻᒥᒃ ᐱᓗᐊᑦᑕᐃᓕᓂᕐᒧᑦ ᐃᓱᒪᒋᔭᓂᒃ ᐱᓪᓗᒋᑦ ᐊᑦᑐᐃᓂᖏᑦ ᐊᖑᓇᓱᓐᓂᐅᑉ ᐅᕝᕙᓘᓐᓃᑦ ᓯᓚᐅᑉ ᐊᓯᔾᔨᕐᓂᖓᑕ. ᓱᓕᑦᑕᐅᖅ, TWG ᐱᔾᔪᑕᐅᓚᐅᕐᑐᖅ ᐃᓄᐃᓴᑦᑐᓂᒃ ᑐᑭᒧᐊᕈᑎᓂᒃ ᐅᑯᓇᙱᑦ ᐃᐸᑎᒋᔭᓖᑦ ᐊᐅᓚᔪᓂᕐᒧᑦ ᓴᖅᑭᓂᓖᑦ ᐱᓪᓗᒋᑦ ᐊᐅᓚᔪᓂᕐᒧᑦ ᑐᕌᖓᐅᔪᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐅᓗᕆᐊᓇᕈᑏᑦ ᐊᑐᕐᑕᐅᒍᓐᓇᕐᓂᖏᑦ. ᐅᓂᒃᑳᓂ, ᐅᖃᓕᒪᐅᓯᖃᓚᐅᕐᑐᒍᑦ ᐊᒥᓱᓂᒃ ᐊᖅᑯᑕᐅᒍᓐᓇᕐᑐᓂᒃ ᒥᑭᔾᔪᒥᑎᒐᓱᐊᕐᓗᒋᑦ ᐆᒪᔫᓂᖏᓐᓄᑦ ᐅᓗᕆᐊᓇᕈᑏᑦ ᐊᑕᔪᑦ ᐃᓄᐃᑦ–ᑕᐃᒪᐃᑎᑕᖏᑦ ᐃᓚᙳᐃᔭᐃᒍᑏᑦ. ᑖᒃᑯᐊ ᐃᓚᖃᕐᑐᑦ ᖃᐅᔨᓴᕐᓂᕐᒥᒃ ᐊᒻᒪᓗ ᖃᐅᔨᒪᓗᓯᐊᕐᓂᕐᒥᒃ ᑲᒪᒋᓗᒋᑦ ᑎᑎᕋᕐᓯᒪᔪᓄᑦ ᐱᑕᖃᙱᓗᐊᕈᑏᑦ ᒫᓂ ᓂᒋᐊᓂ ᑭᕙᓪᓕᐅᑉ ᑕᓱᐅᔭᕐᔪᐊᖓᑕ ᓇᓄᖅᑲᐅᕐᑐᒥ, ᐊᒻᒪᓗ ᐃᓱᒪᒋᔾᑦ ᐊᒥᓱᓂ ᖁᕝᕙᓯᓪᓕᕆᓂ ᐋᕿᔅᓯᒪᔪᖅ ᐊᑖᒍᑦ ᖁᕝᕙᐸᓪᓕᐊᔪᑦ ᐊᐅᓚᔪᓂᕐᒧᑦ ᐊᒻᒪᓗ ᐱᓗᐊᑦᑕᐃᓕᓂᕐᒧᑦ ᑲᒪᒋᔾᑦ ᐊᑕᒻᒪᖔᑕ ᐋᕿᑦᑕᐅᒪᓖᕐᑐᓄᑦ ᓇᓄᖅᑲᐅᕐᑐᑦ ᖃᓄᐃᓐᓂᖏᓐᓄᑦ.

ᐊᖕᒐᔪᖅᑲᐅᑏᑦ ᓇᐃᓈᕈᑎᖕᒋᑦ

Provisional Harvest Risk Assessment for the Southern Hudson Bay Polar Bear Subpopulation

Report to the Southern Hudson Bay Polar Bear Subpopulation Advisory Committee

07 June 2019

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Executive Summary

The Southern Hudson Bay Technical Working Group (TWG) was formed to provide advice to the Southern Hudson Bay Polar Bear Subpopulation Advisory Committee. The TWG has recently compiled the available scientific data for the Southern Hudson Bay (SH) subpopulation, summarized historical removal levels, worked with an outside expert to construct a demographic model, performed a harvest risk assessment, and documented these steps in the current report to the Advisory Committee. Although the assessment was based primarily on scientific information, Indigenous Knowledge was considered when interpreting and modeling the status of the SH subpopulation. The TWG is not a decision-making body. Rather, it sought to draw upon the expertise of its membership to develop and provide advice to the responsible decision-making bodies for the SH subpopulation.

This report presents a quantitative harvest risk assessment for the SH polar bear subpopulation. The final results are a series of potential harvest strategies that can inform prospective management actions in conjunction with other sources of information and considerations. The assessment uses a custom demographic model that was developed to evaluate responses to different environmental conditions and management interventions. Population processes are represented by a discrete version of the theta-logistic equation, which is widely used in ecology. The model includes a single age class and is applied to female bears only. This approach is consistent with the limited demographic information available for the SH subpopulation. The model includes a nonlinear relationship between population density and population growth resulting in demographic patterns that are generally within the bounds of those documented for polar bears and similar species. The model can incorporate the potential effects of habitat change through both density-dependent mechanisms (i.e., changing environmental carrying capacity [K]) and density-independent mechanisms (i.e., changing maximum intrinsic growth rate [r_{max}]).

We estimated parameters of the theta-logistic equation using a Bayesian Monte Carlo approach to population reconstruction. This process used estimates of abundance and population growth rate from capture-recapture studies in the 1980s and 2000s (Obbard et al.

2007), estimates of abundance from aerial surveys in the 2010s (Obbard et al. 2015, 2018), and harvest data from Nunavut, Québec, and Ontario. It also allowed incorporation of prior information from other case studies of polar bears. Population reconstruction demonstrated that the demographic model can reproduce plausible trends for the SH subpopulation in recent decades.

The available data are not conclusive regarding the current demographic status of the SH subpopulation. Statistical uncertainty and methodological differences between capture-recapture studies and aerial surveys preclude estimation of long-term trends in abundance. Several lines of evidence suggest that the subpopulation was, on average, capable of strong growth during the period 1984-2016 and thus could support a relatively high harvest. However, there is also evidence for a decline from 943 bears in 2012 (Obbard et al. 2015) to 780 bears in 2016 (Obbard et al. 2018) based on aerial surveys with consistent methodology. Sea ice has declined in the SH management area, although to a lesser extent than other polar bear management areas (Stern and Laidre 2016), and the SH subpopulation has experienced declines in nutritional condition (Obbard et al. 2016). In the adjacent Western Hudson Bay (WH) subpopulation, similar declines in condition were detected prior to obtaining evidence from capture-recapture studies for declines in reproduction, survival, and abundance (Lunn et al. 2016). Recent aerial surveys for the WH subpopulation suggest a decline in numbers during the period 2011-2016 based on multiple lines of evidence, although the difference in abundance estimates was not statistically significant (Stapleton et al. 2014; Dyck et al. 2017).

We accounted for uncertainty in the current and future status of the SH subpopulation by developing three biological scenarios representing a plausible range of conditions, from optimistic to pessimistic, based on the available scientific data and documented Indigenous Knowledge. The scenarios were developed using different approaches to population reconstruction and different assumptions about the future effects of habitat loss. Scenario 1 reflected the optimistic hypothesis that the future will be similar to the past 30 years, with only gradual declines in K proportional to projected declines in the number of ice-covered days per year in the SH management area. Scenario 2 reflected the middle-of-the-road hypothesis that the future will be similar to the past decade, during which there is some evidence of demographic declines, and that both *K* and r_{max} will decline gradually in the future. Scenario 3 consisted of two pessimistic representations of the SH subpopulation. Scenario 3a included a strong density-independent decline in r_{max} followed by gradual declines in both *K* and r_{max}. Scenario 3b reflected a subpopulation that was theoretically capable of strong growth but experienced rapid and nonlinear declines in *K*.

For each biological scenario, we used the demographic model to project simulated polar bear subpopulations forward in time while being subject to a wide range of female harvest rates. Projections were run for 35 years, which corresponds to approximately three polar bear generations and is a common timeframe for conservation assessments (Regehr et al. 2016). We evaluated the effects of harvest against three potential alternatives for subpopulation Management Objectives: (1) maintain a subpopulation size that achieves maximum sustainable yield, with respect to a potentially changing *K*; (2) maintain a relatively stable subpopulation size; and (3) maintain a subpopulation size above a minimum threshold, below which the function and viability of the subpopulation are likely to be compromised. Management Objective 3 is not intended as a measure of sustainability, but rather to indicate whether the subpopulation could become depleted to the extent that emergency management measures might be warranted. We present the probabilities of achieving the three management objectives for multiple harvest strategies, rather than only presenting results for a smaller number of harvest strategies that correspond to predetermined levels of risk tolerance (i.e., that correspond to specific probabilities of meeting the objectives).

We can compare results for the three biological scenarios by looking at harvest strategies with an 80% probability of meeting Management Objective 1 (i.e., maintaining a subpopulation size that achieves maximum sustainable yield). Management Objective 1 is well suited to balancing subpopulation protection with continued opportunities for use, and an 80% probability falls between the "low" and "medium" levels of risk tolerances that have been subjectively used for Management Objective 1 in other harvest assessments (Regehr et al. 2017a, 2018a). Furthermore, harvest strategies that meet these conditions were associated with low probabilities of violating Management Objective 3 or reducing future sustainable yield through overharvest. For Scenario 1, the corresponding harvest strategy had a present-day harvest level of 21 female bears/year. This is similar to the mean observed harvest for the SH subpopulation of approximately 19 females/year for the period 1986-2016, which is logical given that Scenario 1 was based on the hypothesis that the future will be similar to the past. For Scenario 2, the starting harvest level was 10 female bears/year. Assuming that the proportion of females in the SH subpopulation is currently 0.50, this would correspond to a total (i.e., female and male) harvest rate of approximately 3.8% if harvest were implemented at a 2:1 male-to-female ratio. For reference, this is slightly below the 4.5% rate at a 2:1 male-to-female ratio that has been considered sustainable under favorable environmental conditions (Taylor et al. 1987). For Scenario 3a, the starting harvest level was 4 female bears/year. The probability of violating Management Objective 3 increased at a starting harvest level of 8 female bears/year, and the probability of extirpation increased at a starting harvest level of 18 female bears/year. Scenario 3a demonstrates the potential for overexploitation when a subpopulation's capacity for growth is compromised by severe density-independent limitation. In contrast, subpopulation outcomes for Scenario 3b were relatively insensitive to harvest. This is because the rapid and unidirectional decline in *K* guaranteed that abundance would decline as well, and natural mortality due to density effects could be largely replaced by harvest without accelerating subpopulation declines. Although Scenarios 3a and 3b are both oversimplifications of how sea-ice loss might impact the SH polar bear subpopulation, they demonstrate the importance of whether the effects of habitat change are primarily density independent or density dependent. Currently, the data are not available to differentiate between density-independent and density-dependent effects for SH bears, and this remains an area of research for polar bears in general.

Our approach of considering multiple biological scenarios, management objectives, and harvest strategies has the advantage of clearly representing scientific uncertainty and providing management authorities with detailed information against which their goals can be evaluated. However, it does not lead to recommendation of a specific management strategy because that would require identifying a specific management objective, which to date has not occurred for the SH subpopulation. To evaluate the biological risks of harvest, we suggest initially orienting toward Scenario 2 at a moderate degree of risk tolerance with respect to Management

Objective 1. This would suggest female harvest rates in the vicinity of h = 0.02-0.03, which correspond to starting harvest levels of 8-12 female bears/year. This is equivalent to a total (i.e., female and male) harvest rate of approximately 2.0-3.0% assuming a 1:1 male-to-female ratio in the harvest or approximately 3.0-4.5% assuming a 2:1 male-to-female ratio.

The female harvest rate is the primary determinant of whether a given harvest strategy is sustainable, because female bears are most important to population growth (Eberhardt 1990). Based on previous studies of sex-selective harvest (Taylor et al. 2008; Regehr et al. 2017b) we suggest that a female harvest rate in the range 0.02-0.03 together with a 2:1 male-to-female ratio would be unlikely to deplete males in the SH subpopulation, provided that the female harvest rate was indeed below maximum sustainable yield with respect to the female segment of the subpopulation (Taylor et al. 2008; Regehr et al. 2017b). However, we were not able to directly evaluate the biological effects of a sex-selective harvest because analyses in this report were limited to female bears only. This was necessary because aerial surveys, the primary study method for the SH subpopulation in the past decade, can provide accurate estimates of total abundance but do not provide the data on subpopulation composition or vital rates needed to model the females and males together.

The mid-range harvest strategies indicated above likely have the benefit of limiting lost opportunities for subsistence use if conditions are more like Scenario 1, while reducing the chances of severe overexploitation if conditions are more like Scenario 3a. Working from the starting point of a female harvest rate in the range 0.02-0.03, the information provided in this report can help the management authorities weigh the pros and cons of lower and higher harvests in terms of biological risk, opportunities for use, and other considerations (e.g., human safety). Furthermore, comparing future demographic data for the SH subpopulation against the biological scenarios in this report may help understand how habitat loss is affecting the subpopulation and, by extension, which scenario is most relevant to management.

All harvest strategies in this report follow a “state-dependent” harvest management approach (Regehr et al. 2017b), which is similar to the “adaptive management” approach recommended by the Polar Bear Range States (2015). State-dependent management means that harvest levels do not remain constant into the future, but rather are updated periodically using new data from scientific studies or other sources on the current status (i.e., "state") of the subpopulation. This requires a coupled research-management framework and accurate harvest monitoring. Specifically, our analyses assumed that new aerial surveys will be completed every 5 years with a level of precision similar to the surveys in 2012 and 2016 (Obbard et al. 2015, 2018). If there is uncertainty in the ability to implement state-dependent harvest management with these conditions, a more conservative approach to harvest (i.e., a lower allowable harvest) will be necessary to mitigate risk.

Our findings should be interpreted with caution due to limited demographic data for the SH subpopulation, incomplete understanding of how sea-ice loss affects polar bear population dynamics, and use of a relatively simple demographic model that did not include male bears or a detailed mechanism of reproduction. Our modeling approach did not make purposefully conservative assumptions regarding the effects of harvest or climate change. Furthermore, the TWG received limited guidance from the responsible management authorities with respect to management objectives or risk tolerance. In the main report, we discuss several potential ways to mitigate the biological risks associated with human-caused removals. These include research and monitoring approaches to address data gaps for the SH subpopulation, and the concept of a multi-level system under which graduated management and conservation actions are tied to pre-established subpopulation thresholds.

Introduction

Management of wildlife populations often requires knowledge of demographic parameters together with a model that represents population processes and is designed to address questions of interest to management authorities (Williams et al. 2002). Most of the world's 19 polar bear (*Ursus maritimus*) subpopulations experience some level of direct human-caused mortality either through a subsistence harvest (Shadbolt et al. 2012; Laidre et al. 2015) or associated with human-bear conflicts, industrial development, or other human activities (e.g., Dyck 2006; Wilder et al. 2017). In recent decades, a primary objective of polar bear management has been to estimate the sustainable level of human-caused removals (i.e., the number of bears that can be removed annually while meeting biological management objectives). Methods to do this have included application of a 4.5% harvest rate at a 2:1 male-to-female sex ratio, which early demographic modeling suggested was sustainable under favorable environmental conditions (Taylor et al. 1987); predictive modeling using subpopulation-specific estimates of vital rates (e.g., reproduction and survival) in a stochastic population model (e.g., RISKMAN; Taylor et al. 2006); and application of matrix-based projection models in a state-dependent (i.e., dependent on current conditions) management framework (Regehr et al. 2017b).

We present a provisional harvest risk assessment for the Southern Hudson Bay (SH) polar bear subpopulation, which used a custom demographic model and was developed to evaluate potential responses to different environmental conditions and management interventions. In the model, population processes are represented by a discrete version of the theta-logistic equation, which has been widely used to evaluate sustainable harvest of wildlife (e.g., Johnson et al. 2018). We selected the theta-logistic equation for several reasons. First, it has a simple structure that is consistent with the limited demographic information available for the SH subpopulation. Second, it can represent nonlinear density-dependent effects (Ross 2009) in a manner that is broadly consistent with the more detailed model of Regehr et al. (2017b). Third, it can accommodate variation in environmental carrying capacity (K) and intrinsic growth rate (r) resulting from habitat change or other factors. Finally, previous studies have suggested a value of theta (θ), a parameter in the theta-logistic equation that determines the relationship between population density and population growth that results in plausible demographic behaviors for polar bears (USFWS 2016). To the extent possible, our goal was to incorporate key features of the demographic model described in Regehr et al. (2017b) in a simpler model that takes advantage of available data for the SH subpopulation and could be completed under a timeline determined by management needs.

We use the demographic model to project simulated polar bear subpopulations forward in time under different biological and management conditions. In recent decades, loss of sea ice due to climate change has been implicated in declining body condition for SH polar bears

(Obbard et al. 2016). In the adjacent Western Hudson Bay subpopulation, similar declines in body condition were detected prior to declines in reproduction, survival, and abundance (Stirling et al. 1999; Regehr et al. 2007; Lunn et al. 2016; Sciullo et al. 2016). In the harvest risk assessment, we consider both density-dependent changes in K and density-independent changes in r_{max} because the mechanisms through which habitat loss affects a subpopulation can influence its ability to support harvest. Uncertainty in the demographic status of the SH subpopulation was accounted for in two ways. First, we used a Bayesian Monte Carlo approach to population reconstruction to estimate parameters of the theta-logistic equation, and then performed simulations using the full posterior distributions. Second, we developed three biological scenarios representing a plausible range of conditions for the future status of the SH subpopulation, from optimistic to pessimistic.

Our analyses use a state-dependent harvest management framework, which is similar to the "adaptive management" framework recommended by the Polar Bear Range States (2015). State-dependent management means that harvest levels do not remain constant into the future, but rather are updated periodically using new data from scientific studies or other sources on the current status (i.e., "state") of the subpopulation (Lyons et al. 2008). This can be an effective way to reduce the risk of overharvest while maintaining opportunities for use. A consequence of this approach, however, is that all findings are conditional on the existence of a coupled research-management system and accurate harvest reporting. Not following a state-dependent approach could invalidate the results, increase the chances of overexploitation, and consequently have negative implications for the SH subpopulation.

Our objectives were to: (1) develop a demographic model for the SH polar bear subpopulation that can be used to explore the probabilities of various subpopulation outcomes to a range of harvest levels; (2) develop a procedure to estimate model parameters from available data, (3) validate the model (e.g., ensure it can reproduce plausible behaviors for the subpopulation in recent decades), (4) take into account key uncertainties in demographic information, environmental conditions, and the mechanisms of subpopulation change, and (5) perform a quantitative harvest risk assessment. Results are presented as a series of potential harvest strategies and the associated probabilities of meeting several management objectives.

We took this approach because the TWG was directed to formulate management objectives, risk tolerances (i.e., acceptable probabilities of meeting management objectives), and harvest strategies with limited input from the management authorities and end users. Our findings are intended to inform prospective management actions in conjunction with other sources of information and considerations.

Methods

Abbreviations, parameters, and indexing definitions are listed in Table 1.

Data for the Southern Hudson Bay polar bear subpopulation

This section describes demographic and harvest data for the SH subpopulation that were used to develop the demographic model, estimate model parameters, and inform forward projections to evaluate harvest risk. For some data types, we only focused on females because they are the most important contributors to population growth (Eberhardt 1990) and because the demographic model did not include male bears (see section "Theta-logistic demographic model").

<u>Harvest data</u>

Harvest year *t* was defined as the period between 01 July of calendar year *t*-1 and 30 June of calendar year *t*. In the demographic model, annual timesteps were defined as occurring from autumn of calendar year *t* to autumn of calendar year *t*+1, to coincide with autumn-based sampling of the subpopulation during research. During subpopulation projections, the annual timestep starting in the autumn of calendar year *t* was affected by removals that occurred in the harvest year *t*+1. We did not account for the temporal offset between harvest years and annual timesteps because this would have required recompiling the harvest data and we believed that it was unlikely to affect the results.

In this report, “harvest” refers to all human-caused removals (e.g., subsistence harvest, removal of problem bears, other direct human-caused mortalities) because the demographic model only evaluated the biological effects of removals. Harvest data for some jurisdictions included uncertainty due to incomplete or inaccurate reporting. We incorporated uncertainty by treating annual harvest numbers as random variables reflecting the reported harvest levels and estimates of harvest reporting probability based on the expert opinion of regional biologists.

Harvest data for Nunavut were considered accurate and complete. For harvest years 1985-2016, the mean female harvest level was 7.8 bears/year (standard deviation (sd) of annual mean values = 2.6 bears/year). The mean proportion of females in the harvest was 0.32.

We assumed that the reported harvest in Québec was incomplete, with reporting probability represented by a uniform distribution with a minimum of 0.5 and a maximum of 0.9. The annual proportion of females in the Québec harvest was set to 0.34 based on the mean proportion of females in the reported harvest. For harvest years 1985-2016, the resulting mean female harvest level was 8.8 bears/year (sd of annual mean values = 7.4 bears/year). The mean coefficient of variation (CV) of annual harvest levels, which results from uncertainty in reporting probability, was approximately 0.37. It is possible that harvest reporting in Québec was positively correlated with the market price of polar bear hides (e.g., that reporting probability was higher in years with higher prices), but we did not have sufficient evidence to model such a relationship.

We assumed that harvest reporting in Ontario was complete 1985-1990, and that harvest was under-reported by 0-2 bears per year 1991-2016. The number of unreported bears was represented as a multinomial distribution with equal probabilities for each value. The annual proportion of females in the Ontario harvest was set to 0.30 based on the mean proportion of females in the reported harvest. For harvest years 1985-2016, the mean female harvest level was 2.7 bears/year (sd of annual mean values = 2.1 bears/year). The mean CV of annual harvest levels was approximately 0.65.

Abundance

Estimates of abundance (*N*) for the SH subpopulation were available for the periods 1984-1986 and 2003-2005 from capture-recapture studies (Kolenosky et al. 1992, Obbard et al. 2007), and for the years 2012 and 2016 from aerial surveys (Obbard et al. 2015, 2018). Some estimates were modified to minimize differences in study methods and geographic sampling area, as described below.

Mean estimates of *N* from Obbard et al. (2007) were 641 (95% CI = 401-881) for 1984-1986 and 681 (95% CI = 401-961) for 2003-2005. For convenience, we refer to these estimates as applying to 1986 and 2005, respectively. The estimates were obtained from capture-recapture studies performed in autumn in an onshore area extending from approximately the Ontario-Manitoba border to Hook Point on James Bay. We assumed that estimates of *N* for 1986 and 2005 followed normal distributions and adjusted them in two ways to increase their compatibility with abundance estimates from the aerial surveys in 2012 and 2016. First, we accounted for bears on Akimiski Island and the Twin Islands, which were not sampled during capture-recapture studies, by adding a random number of bears selected with equal probability from a lognormal distribution with approximate mean = 110 and 95% CI = 75-195, or a lognormal distribution with approximate mean = 71 and 95% CI = 57-120. These two distributions are from closed-population capture-recapture studies performed in 1997 and 1998. Obbard et al. (2007) suggested these values should be added to their estimates, to estimate the total size of the SH subpopulation. Second, we accounted for bears on small islands of James Bay and islands in eastern Hudson Bay by adding the mean number of bears in these areas based on aerial surveys conducted in 2012 and 2016. In 2012, we assumed that there were 25 bears on the small islands of James Bay (i.e., excluding Akimiski Island and the Twin Islands), 44 bears on islands in eastern Hudson Bay, and 2 bears on the Belcher Islands. These values were based on raw data from the 2012 aerial survey (Obbard et al. 2015). In 2016, we assumed that there were 13 bears on the small islands of James Bay and 53 bears on islands in eastern Hudson Bay, including Belcher Islands. These values were based on the number of observed clusters, cluster size, and detection probability from the 2016 aerial survey (Obbard et al. 2018). Together, these calculations suggested that the mean number of bears located on small islands in James Bay and on islands in eastern Hudson Bay was approximately 69.

The estimate of *N* for 2012, obtained from a distance sampling aerial survey performed in 2011 and 2012 (Obbard et al. 2015), was assumed to follow a lognormal distribution with approximate mean = 943 and standard error (se) = 174. The estimate of *N* for 2016, obtained from a distance sampling aerial survey in 2016 (Obbard et al. 2018), was assumed to follow a lognormal distribution with approximate mean = 780 and se = 111.

As our analyses considered only female bears, we required estimates of the sex composition of the SH subpopulation. For 1986 and 2005 we estimated the proportion of females to be 0.46 and 0.57, respectively, by applying a Horvitz-Thompson estimator to model-averaged estimates of sex-specific recapture probability from Obbard et al. (2007). Since that the sex composition obtained from the subsequent aerial surveys (Obbard et al. 2015, 2018) was considered uncertain and potentially biased by the easier detection of males, we subjectively assumed that the proportion of females in 2012 and 2016 was 0.50. This lower proportion of females compared to the 2005 estimate (0.57) was also consistent with an apparent decline in the proportion of females observed between the 2012 and 2016 surveys, despite the uncertainties mentioned above regarding sex data obtained from those aerial surveys.

Abundance estimates for 1986 and 2005 were derived from an open-population capture-recapture study and therefore represent the “superpopulation”, defined as all animals with a non-negligible probability of occurring within the sampling area (Obbard et al. 2007). If bears commonly moved between the capture-recapture sampling area and the small islands of James Bay and the islands in eastern Hudson Bay, estimates of superpopulation size would likely include all animals of biological interest in the SH subpopulation and thus not require the post hoc adjustments described above. However, detailed analyses of polar bear movements among areas (e.g., using satellite telemetry data) were not available. We explored the ramifications of this uncertainty by performing a limited number of analyses with estimates of

N for 1986 and 2005 that did, and did not, include adjustments for the small islands of James Bay and the islands in eastern Hudson Bay.

Population growth rate

We used published estimates of vital rates (e.g., reproduction and survival) together with a stage-structured matrix population model (Regehr et al. 2017b) to estimate asymptotic growth rates for the SH subpopulation in the years 1986 and 2005. Survival estimates were obtained from Obbard et al. (2007, 2010). Reproductive estimates for 1986 and 2005 were obtained from Kolenosky et al. (1994) and Obbard et al. (2010), respectively. We accounted for statistical uncertainty by generating 10,000 random samples of the vital rates based on the reported means and variances, a correlation matrix for survival estimates from the most supported model in Obbard et al. (2007), and the assumption of no correlation between survival and reproduction.

First, we calculated the observed intrinsic growth rate (r_{obs}) using estimates of total survival directly from Obbard et al. (2007), which include harvest mortality. Second, we calculated potential growth rate in the absence of harvest (r_{pot}) by converting estimates of total survival (S^{total}) to estimates of un-harvested survival (*S*) using the formula:

$$S = S^{total}/(1 - H/N), \qquad \text{[eqn 1]}$$

where *H* is the number of bears removed by humans and *N* is abundance. Thus, *H*/*N* is the harvest mortality rate. This approach assumes that human-caused mortality is additive within a given year, whereas density dependence in the demographic model allowed a compensatory response to changes in density across years (see section “Theta-logistic demographic model”). Equation 1 was applied to sex- and age-specific estimates of survival and abundance from 1986 and 2005 (Obbard et al. 2007). We referenced the resulting estimates of r_{pot} to a subpopulation density at maximum net productivity level (*MNPL*; i.e., we set $r_{MNPL} = r_{pot}$). This reflected the assumption that the SH subpopulation has been harvested in the vicinity of maximum sustainable yield (MSY) in recent decades. We then back-calculated the approximate maximum intrinsic growth rate (r_{max}) using the mean ratio r_{MNPL} / r_{max} = 0.82 that has been suggested for polar bears (Regehr et al. 2017b).

Proxy for environmental carrying capacity

Changes in sea-ice habitat are expected to have demographic impacts on polar bears (e.g., Derocher et al. 2004) via density-dependent mechanisms, density-independent mechanisms, or both (Regehr et al. 2017b). In the demographic model, density-dependent effects were incorporated by using the number of ice-covered days per year, calculated using the methods of Stern and Laidre (2016), as a proxy for *K*. Each year, the sea-ice area reaches a maximum in March and a minimum in September. We defined a threshold halfway between the mean March sea-ice area and the mean September sea-ice area for the period 1979-2016. Then, we calculated the number of ice-covered days in year *t* as the total number of days before the sea-ice area drops below the threshold in spring of year *t*, and after the sea-ice area rises above the threshold in fall of year *t*. This sea-ice metric has been included in the IUCN/SSC Polar Bear Specialist Group's status table (Durner et al. 2018) and used in other harvest risk assessments (Regehr et al. 2017a, 2018a).

We represented future trends and variability in *K* by projecting the number of ice-covered days forward in time using linear models and the methods of Gelman and Hill (2007) to simulate uncertainty in the slope and residual standard errors. Projected values of ice-covered days in years *t* = 2, 3, … T were standardized by dividing by the fitted value at the start of projections (year *t* = 1). This resulted in a dimensionless parameter (κ) representing proportional changes in *K*. During population projections, carrying capacity at year *t*, calculated as $K_t = K_{t=1} \times \kappa_t$, operated on population growth through the theta-logistic model (see section "Theta-logistic demographic model"). In some analyses we used an alternative, nonlinear method to project *K* forward in time (see section "Simulations to evaluate harvest risk").

Demographic model

We constructed a demographic model based on the theta-logistic equation, which is widely used in population ecology for species with nonlinear negative density dependence (e.g., Saether et al. 2002). We modeled the female component of the SH subpopulation only because the theta-logistic equation does not include sex or age structure. Therefore, the model is not capable of representing the complex life cycle of polar bears (e.g., polygynous reproduction and extended maternal care) or the demographic effects of changes in population composition (e.g., a skewed sex ratio due to sex-selective harvest).

Model description

The theta-logistic equation can be written as follows:

$$N_{t+1} = N_t \times \left\{ 1 + \left[r_{max} \left(1 - \left(\frac{N_t}{K}\right)^{\theta} \right) \right] \right\} - hN_t, \qquad \text{[eqn2]}$$

where N is abundance, r_{max} is maximum intrinsic growth rate, K is environmental carrying capacity, h is the harvest rate (i.e., the percentage of subpopulation abundance removed), and θ is a shape parameter that determines how the growth rate changes as a function of subpopulation density. The product hN_t is the harvest level (H_t; the number of bears removed from the population between timesteps t and t+1). The notation t indicates parameters that can change across annual timesteps (i.e., t = 1, 2, 3…, T). For simplicity, equation 2 is written with temporal notation only for N. In practice, the model can include temporal variation in K, r_{max}, and H. For all subpopulation projections, we fixed the density-dependent shape parameter to θ = 5.045 because this value produces demographic behaviors consistent with other models for polar bears (USFWS 2016). Data were not available to estimate a value of ϑ specific to the SH subpopulation.

Key behaviors of a theta-logistic model can be demonstrated by growth and yield curves (Figures 1 and 2, respectively). These curves were generated using r_{max} = 0.06, a typical value for polar bears (Regehr et al. 2017b). At low densities (i.e., small N/K) the observed growth rate is equal to the maximum intrinsic growth rate (r_{max}) because crowding and competition are at a minimum (Figure 1). Furthermore, the observed growth rate remains high until *N* starts to approach *K*, at which point growth declines rapidly until stability is reached at an equilibrium abundance $N = K$. This nonlinear density dependence results in an asymmetric yield curve for which *MSY* occurs at approximately $MNPL = 0.7K$ (Figure 2). The corresponding ratio r_{MNPL} / r_{max} is approximately 0.83, suggesting relatively strong compensation for human-caused mortality. These demographic behaviors are broadly consistent with those resulting from a stage-structure matrix population model based on the polar bear life cycle (Regehr et al. 2015, 2017b). It is important to use a biologically realistic model of density dependence when evaluating the combined effects of habitat change and human-caused removals (Guthery and Shaw 2013; Williams 2013).

Mechanisms of population change

Environmental change can affect wildlife populations through density-dependent and density-independent mechanisms (e.g., Winship and Trites 2006). Negative density-dependent effects can be thought of as declines in habitat quantity, which lead to a reduction in the number of animals that an environment can support (i.e., reduced *K*). Negative density-independent effects can be thought of as declines in habitat quality, which lead to a reduced capacity for population growth regardless of the number of animals (i.e., reduced r_{max}). Depending on the type of habitat change and the ecology of the species, the parameters r_{max} and *K* could be mechanistically linked such that they change in unison. These and other concepts in population dynamics and harvest management for polar bears are reviewed in Appendix C of USFWS (2016). In the current report, the theta-logistic model could accommodate density-dependent effects through changes in *K*, density-independent effects through changes in r_{max}, and combined effects through independent changes in both parameters (Figure 2).

Management framework

State-dependent harvest

Regehr et al. (2017b) described a state-dependent harvest management framework under which the harvest level is periodically updated using new information on subpopulation abundance and growth rate. The current harvest risk assessment included a simplified state-dependent framework that used new estimates of *N* to update harvest level but did not use new estimates of r_{max} to update the harvest rate. For a given harvest strategy, the harvest level at each time step *t* was calculated as follows:

$$H_t = h \times \widetilde{N}_t \ , \qquad \text{[eqn 3]}$$

where *H* is the number of females removed; *h* is a target harvest rate, defined as the proportion of female bears to be removed by humans each year; and $\widetilde{N}$ is an estimate of female abundance selected as the 50th percentile of its sampling distribution.

A state-dependent harvest management approach requires specifying the management interval, defined as the number of years between successive subpopulation assessments and changes to the harvest based on updated demographic information. We used a management interval of 5 years. During simulated subpopulation assessments, the estimate of *N* in year *t* was randomly selected from a normal distribution with a mean equal to the average abundance in years *t*-3, *t*-2, and *t*-1 and a standard deviation based on CV($\widetilde{N}$) = 0.16. This is the mean CV from the 2012 and 2016 aerial surveys (Obbard et al. 2015, 2018), reflecting the assumption that future subpopulation assessments will produce estimates of *N* with a similar level of precision.

Management objectives and risk tolerance

Evaluating harvest strategies requires statements of the biological outcomes that managers want to achieve. In this report we evaluated harvest relative to the following three management objectives.

- Management Objective 1: Maintain a harvested subpopulation at an equilibrium size greater than *MNPL*. During stochastic projections, the probability that subpopulation abundance was greater than *MNPL* at time step *t* was denoted $P_t^{N>MNPL}$. To calculate $P_t^{N>MNPL}$ we used a single value of *MNPL* corresponding to a relative density N/K = 0.70, which is similar to the mean estimate of relative density at *MNPL* across a wide range of vital rates (Regehr et al. 2017b). This provided a consistent point of reference for evaluating harvest effects across different biological and environmental conditions.
- Management Objective 2: Maintain a harvested subpopulation at an equilibrium size greater than 90% of starting subpopulation size (i.e., subpopulation size at year *t* = 1). The probability of meeting Management Objective 2 at time step *t* was denoted $P_t^{N>0.9N1}$.
- Management Objective 3: Maintain a harvested subpopulation at an equilibrium size above a minimum threshold, below which the function and viability of the subpopulation would be compromised. The probability of meeting Management Objective 3 at time step *t* was denoted $P_t^{N>threshold}$. In the current report, we calculated $P_t^{N>thresh}$ based on a threshold of 175 female bears.

These or similar objectives are common indices of sustainability in wildlife management (Sutherland 2001) and have been used in other risk assessments for polar bears (Regehr et al. 2018a). Assessing whether a given harvest strategy meets a management objective requires a statement of risk tolerance, which specifies the required probability of meeting the objective. Because management authorities for the SH subpopulation did not provide specific guidance on acceptable amounts of risk, we present results for a wide range of harvest strategies rather than for a smaller number of strategies corresponding to pre-specified levels of risk tolerance. As a point of reference, we note that previous harvest risk assessments for polar bears using Management Objective 1 have defined “low” risk tolerance as $P_t^{N>MNPL}$ > 0.90 and “medium” risk tolerance as $P_t^{N>MNPL}$ > 0.70 (Regehr et al. 2017a, 2018a). The same levels of risk tolerance should not be applied to all three alternative management objectives because the consequence of failing to meet each objective is different.

Steps for population reconstruction

We used population reconstruction to estimate parameters of the theta-logistic model that provided a good fit to empirical demographic data for the SH subpopulation. This ensured that the demographic model could reproduce the SH subpopulation's historic status and trend. Also, it provided estimates of model parameters to use in forward projections. We present general methods here and provide additional details in the section "Simulations to evaluate harvest risk".

Population reconstruction was performed using a Bayesian Monte Carlo approach. First, we specified prior distributions for r_{max} and $N_{t=1}/K_{t=1}$ based on existing knowledge of polar bear demography and assumptions that were specific to each biological scenario. Second, we ran retrospective projections over the period 1986-2016, or a subset of these years, using the theta-logistic model parameterized with 100,000 random samples from the prior distributions for r_{max} and $N_{t=1}/K_{t=1}$. Abundance at t = 1 was randomly selected from a uniform distribution covering the range of the empirical confidence interval for N in 1986, 2005, or 2012, depending on which year the retrospective projection started. A stochastic harvest was applied at each time step based on the historic harvest (see section "Harvest data"), and K varied stochastically from year-to-year with a trend and variance that were specific to each biological scenario. Third, for each retrospective projection we calculated a likelihood based on the probabilities of observing the selected value of r_{max} and the projected values of N, given the empirical estimates of r_{max} for 1986 and 2005 from capture-recapture studies (Obbard et al. 2007), and the empirical estimates of N for 1986, 2005, 2012, and 2016 from capture-recapture studies and aerial surveys (Obbard et al. 2015, 2018). Sets of model parameters that had a value of r_{max} or a projected value of N with zero probability resulted in a log-likelihood of negative infinity, and thus were discarded. The remaining sets of model parameters, with their normalized likelihood values considered to be observation weights, were used to generate empirical probability density functions for r_{max} and starting $N_{t=1}/K_{t=1}$, which in turn were used to generate posterior distributions. Unless otherwise noted, all reconstructions used estimates of N for 1986 and 2005 that had been adjusted for bear on small islands in James Bay and in eastern Hudson Bay.

Steps for subpopulation projections

We used the theta-logistic model to project simulated polar bear subpopulations forward in time. At each time step, harvest was applied using equation 3, after which the subpopulation was projected forward one year using equation 2. Forward projections were run for 35 years, which is approximately three polar bear generations (Regehr et al. 2016). Three species-specific generation lengths is a common timeframe for conservation assessments because it scales with life history processes (Mace et al. 2008) and, for our purposes, allowed assessment of relatively long-term harvest effects.

For a given projection it was necessary to specify biological parameters of the subpopulation, environmental conditions and how they influenced biological parameters, and a harvest strategy. The relevant biological parameters were $N_{t=1}$, r_{max}, and starting subpopulation density relative to carrying capacity (i.e., $N_{t=1}/K_{t=1}$, which together with $N_{t=1}$ permits calculation of $K_{t=1}$). Environmental conditions included temporal changes in K, temporal changes in r_{max}, or both. Harvest strategies were defined by a time-constant harvest rate (h). The annual harvest level during the first management interval (i.e., for years t = 1, 2, 3, 4, 5) was calculated based on the empirical point estimate of female abundance in 2016 (Obbard et al. 2018). This ensured that starting harvest levels were based on the best-available information and were consistent across projections with the same harvest strategy. At the beginning of subsequent management intervals, the harvest level was calculated using equation 3 with a value of $\widetilde{N}$ derived from a simulated subpopulation assessment.

To reflect key sources of uncertainty we performed stochastic projections over which certain parameters varied. We define a “simulation” as 10,000 forward projections that used the same biological parameters, method to project K and specify temporal variation in r_{max}, and harvest strategy. Within a simulation, sampling variation (i.e., statistical uncertainty in demographic information) was incorporated by selecting 10,000 random samples of the theta-logistic model parameters from their posterior distributions (see section "Population reconstruction"). Environmental variation was incorporated by using a different stochastic projection of *K* for each sample of model parameters (see section "Proxy for environmental carrying capacity"). For each simulation we recorded the probabilities of meeting the three management objectives as well as the following subpopulation outcomes.

- $\overline{N}_t$: Mean subpopulation abundance (female bears) at time step t.
- $\overline{K}_t$: Mean environmental carrying capacity (female bears) at time step t.
- $\overline{H}_t$: Mean annual harvest level (female bears/year) at time step t. For a given fixed-rate harvest strategy, the harvest level can change over time if *N* changes due to habitat change or the effects of harvest.
- P_{ext}: Probability of extirpation, defined as *N* falling below a quasi-extinction threshold of 15% of starting *N*. Subpopulations that crossed below the quasi-extinction threshold at any time step were considered extirpated and could not recover.

Simulations to evaluate harvest effects

We developed three biological scenarios to represent plausible alternatives, from optimistic to pessimistic, for the status of SH subpopulation. Each scenario used a different approach to population reconstruction and made different assumptions about future environmental conditions. For each scenario, we performed 17 simulations corresponding to female harvest rates from 0-8% in 0.5% increments.

<u>Scenario 1</u>

This optimistic scenario reflected the hypothesis that the future status of the SH subpopulation will be similar to its status 1986-2016, during which the subpopulation was capable of strong growth and the long-term trend in abundance was approximately stable.

Population reconstruction was performed for the period 1986-2016 using estimates of r_{max} from 1986 and 2005, estimates of *N* from 1986, 2005, 2012, and 2016, and the observed harvest. The prior for r_{max} was a normal distribution with a mean of 0.06 and a standard deviation of 0.02, which is the approximate distribution of point estimates of r_{max} from case studies for polar bears as reviewed in Regehr et al. (2017b). Use of this prior represents the hypothesis that the capacity for growth of the SH subpopulation during the period 1986-2016 was similar to that of other polar bear subpopulations in recent decades. The prior for $N_{t=1}/K_{t=1}$ was a uniform distribution with a minimum of 0.5 and maximum of 0.9. Regehr et al. (2017b) suggested that a mean equilibrium density of $N/K \approx 0.70$ corresponded to *MNPL* across a wide range of vital rates for polar bears. We used a diffuse uniform distribution with a mean of 0.70 because, although the subpopulation density for 1986 is not known, it was reasonable to assume that the SH subpopulation had been harvested in the general vicinity of MSY in the years prior to 1986. Population reconstruction was performed using stochastic projections of *K* with the variance based on a linear model fit to the time-series of ice-covered days 1979-2016, and the slope set to 0. We set the slope to 0 because, on average, a stable carrying capacity seemed consistent with the relatively stable estimates of *N* for the period 1986-2016. During forward projections for Scenario 1, *K* was projected using the estimated variance and slope from a linear model fit to the sea-ice data 1979-2016. This reflected the hypothesis that the SH subpopulation will experience gradual density-dependent declines in *K* (approximately 3% per decade) in proportion to the observed decline in the number of ice-covered days per year in the SH management area. Forward projections for Scenarios 1 used time-constant values of r_{max}, reflecting the hypothesis that the SH subpopulation will not experience density-independent limitation due to habitat change.

<u>Scenario 2</u>

This middle-of-the-road scenario reflected the hypothesis that the future status of the SH subpopulation will be similar to its status 2005-2016, during which the subpopulation was capable of moderate growth and may have experienced a decline in abundance toward the end.

Population reconstruction was performed for the period 2005-2016 using the estimate of r_{max} from 2005, estimates of N from 2005, 2012, and 2016, and the observed harvest. The priors for r_{max} and $N_{t=1}/K_{t=1}$ were the same as for Scenario 1. During population reconstruction we used stochastic projections of K with the estimated variance and slope from a linear model fit to the sea-ice data 1979-2016. This reflected the hypothesis that the SH subpopulation experienced gradual density-dependent declines in K during the period 2005-2016. We also specified a deterministic decline in r_{max} equivalent to 3% of its starting value per decade. This reflected the hypothesis that the SH subpopulation also experienced gradual density-independent declines in proportion to declining sea ice. For Scenario 2, forward projections used the same temporal patterns in K and r_{max} as the population reconstruction. This reflected the hypothesis that the SH subpopulation will continue to experience gradual declines that are both density dependent and density independent.

Scenario 3

This pessimistic set of scenarios reflected the hypothesis that the future status of the SH subpopulation will be similar to its status 2012-2016, during which subpopulation abundance likely declined. Scenarios 3a and 3b attribute the decline to density-independent and density-dependent mechanisms, respectively. This distinction is important because the mechanisms of subpopulation change influence the ability to support harvest.

Scenario 3a

Population reconstruction was performed for the period 2012-2016 using estimates of N from 2012 and 2016, and the observed harvest. The prior for r_{max} was a uniform distribution with a maximum of 0.06 and a minimum of 0, reflecting the hypothesis that the SH subpopulation was undergoing below-average growth compared to other polar bear subpopulations. The prior for $N_{t=1}/K_{t=1}$ was the same as for scenarios 1 and 2, and both the population reconstruction and forward projections used the same temporal changes in K and r_{max} as Scenario 2. Scenario 3a reflected the hypothesis that the SH subpopulation experienced strong density-independent limitation prior to 2016, and will continue to experience gradual declines that are both density dependent and density independent.

Scenario 3b

Population reconstruction was identical to Scenario 1 with one exception. Whereas Scenario 1 assumed stability in K, Scenario 3b included a nonlinear decline in K over the period 1986-2016 that continued into forward projections. Specifically, during population reconstruction we used a logistic function to model K. In addition to $K_{t=1}$, which was specified in the same manner as for other scenarios, the logistic function required a parameter representing the year in which K changed most rapidly (i.e., the x-axis location of the midpoint of the logistic function's sigmoidal curve) and a parameter specifying the steepness of the curve. These two parameters were estimated using noninformative priors and the same Bayesian Monte Carlo approach described above. Scenario 3b reflected the hypothesis that the SH subpopulation would remain capable of strong growth if habitat were sufficient, but that the subpopulation will experience severe density-dependent declines in K that represent a collapse in the region's ability to support polar bears.

Software

Computations were performed in the R computing language (version R 3.4.0; The R Project for Statistical Computing; http://www.r-project.org). Matrix projection models were constructed and evaluated using the packages 'popbio' (Stubben and Milligan 2007) and 'popdemo' (Stott et al. 2011).

Results

Data for the Southern Hudson Bay polar bear subpopulation

Our analyses used a combination of published, unpublished, and derived demographic data for the SH polar bear subpopulation. Female harvest was estimated by summing stochastic harvest levels for Nunavut, Ontario, and Québec. For harvest years 1985-2016, the mean female harvest was 19.3 bears/year (sd of annual mean values = 7.9 bears/year; Figure 3). Estimates of total (i.e., female and male) abundance, and estimates of the proportion of females in the subpopulation, were obtained from capture-recapture studies (Obbard et al. 2007) and aerial surveys (Obbard et al. 2015, 2018). We present estimates of *N* from capture-recapture studies in 1986 and 2005 that were, and were not, adjusted to include bears that were potentially missed on the small islands in James Bay and the islands in eastern Hudson Bay (Table 2). For the period 1985-2016 the mean total (i.e., female and male) harvest rate for the SH subpopulation was approximately 0.07 (95% CI = 0.03-0.15). The mean female harvest rate 1985-2016, expressed as the proportion of females removed each year, was approximately 0.05 (95% CI = 0.01-0.11).

We estimated asymptotic growth rates using a matrix-based projection model parameterized with vital rates from capture-recapture studies. Estimates of observed growth rate and maximum intrinsic growth rate for 1986 were r_{obs} = 0.02 (-0.07-0.08) and r_{max} = 0.10 (0.01-0.15). Estimates for 2005 were r_{obs} = -0.02 (-0.18-0.07) and r_{max} = 0.01 (-0.17-0.13). The point estimates of r_{max} for 1986 and 2005 were near the upper and lower limits for polar bears, respectively (Regehr et al. 2017b), although precision of the estimates was low.

The number of ice-covered days in the SH management area declined significantly during the period of the satellite record (1979-2016: linear model slope = -0.63 ice-covered days/year; se[slope] = 0.21, $P < 0.01$) and during the period of current demographic modeling (1984-2016: linear model slope = -0.76 ice-covered days/year; se[slope] = 0.29, $P = 0.01$). Ice conditions varied from year-to-year and had potentially different trends over shorter time periods (Figure 4). Similar short-term variation, including transient periods of stability in sea-ice conditions, has been documented for the adjacent Western Hudson Bay subpopulation (Lunn et al. 2016). Stochastic projections of K based on a linear model fit to the sea-ice metric 1979-2016 declined by approximately 3% per decade.

Simulations to evaluate harvest risk

We used population reconstruction to estimate parameters of the theta-logistic model for three biological scenarios. For each scenario, we then performed simulations to evaluate the effects of female harvest rates from 0-8% under a state-dependent harvest management framework. In this section, we compare results across scenarios by examining harvest strategies with approximately an 80% probability of meeting Management Objective 1. We also present results for harvest strategies corresponding to a wide range of risk tolerances in table form.

Scenario 1 (optimistic)

The posterior distribution of r_{max} (Figure 5) estimated from population reconstruction had a mean of 0.08 (95% CI = 0.05-0.11). The posterior of $N_{t=1}/K_{t=1}$ had a mean of 0.73 (95% CI = 0.53-0.89). Under this scenario, the SH subpopulation was capable of strong growth 1986-2016. The population reconstruction for Scenario 1 provided a reasonable fit to historic data (Figure 6). For example, the mean value of N from retrospective projections was slightly above the empirical estimates of N in 1986 and 2016, and slightly below the empirical estimates of N in 2005 and 2012. To explore sensitivity of results to estimates of N for 1985 and 2005, we performed a supplemental population reconstruction for Scenario 1 using values of N that were not adjusted for bears on the small islands of James Bay and islands in eastern Hudson Bay (Table 2). The estimate of r_{max} did not change at the level of precision that we report, suggesting that this issue was unlikely to have a substantive impact on results.

Simulations for Scenario 1 indicated that a subpopulation with these characteristics could likely support a relatively high harvest (Table 3). For example, a harvest strategy with female harvest rate h = 0.055 resulted in $P_{t=35}^{N>MNPL}$= 0.78, which is close to an 80% probability of meeting Management Objective 1. This strategy would correspond to a starting harvest level

$\overline{H}_{t=1}$ = 21 female bears/year and a mean ending harvest level $\overline{H}_{t=35}$= 19 female bears/year, where the difference results from gradual declines in projected values of *K*. Under this harvest strategy, the subpopulation would have a low probability of crossing below the minimum abundance threshold (i.e., $P_{t=35}^{N>thresh}$= 0.99) and a negligible probability of extirpation (i.e., P_{ext} = 0.00). We report results up to a maximum female harvest rate of *h* = 0.060, because at this point the probability of crossing below the minimum abundance threshold starts to increase rapidly even for the most optimistic Scenario 1.

Scenario 2 (middle-of-the-road)

The posterior distribution of r_{max} from population reconstruction had a mean of 0.05 (95% CI = 0.02-0.09). The posterior of $N_{t=1}/K_{t=1}$ had a mean of 0.73 (95% CI = 0.51-0.90). Under this scenario, the SH subpopulation was capable of average growth 2005-2016. The population reconstruction for Scenario 2 provided a reasonable fit to historic data (Figure 7).

Simulations for Scenario 2 indicated that a subpopulation with these characteristics could likely support a moderate harvest (Table 4). For example, a harvest strategy with a female harvest rate *h* = 0.025 resulted in $P_{t=35}^{N>MNPL}$= 0.84. This strategy would correspond to a starting harvest level $\overline{H}_{t=1}$ = 10 female bears/year and a mean ending harvest level $\overline{H}_{t=35}$= 10 female bears/year. Under this strategy, the subpopulation would have a low probability of crossing below the minimum threshold (i.e., $P_{t=35}^{N>thresh}$= 0.99) and a negligible probability of extirpation (i.e., P_{ext} = 0.00).

Scenario 3 (pessimistic)

For Scenario 3a the posterior distribution of r_{max} from population reconstruction had a mean of 0.03 (95% CI = 0.00-0.06), which was similar to its prior. The posterior of $N_{t=1}/K_{t=1}$ had a mean of 0.71 (95% CI = 0.51-0.90). Under this scenario, the SH subpopulation was capable of limited growth 2005-2016. The population reconstruction for Scenario 3a provided a reasonable fit to historic data (Figure 8).

Simulations for Scenario 3a indicated that a subpopulation with these characteristics could support a low harvest (Table 5). For example, a harvest strategy with h = 0.01 resulted in $P_{t=35}^{N>MNPL}$= 0.79. This strategy would correspond to a starting harvest level $\overline{H}_{t=1}$ = 4 female bears/year and a mean ending harvest level $\overline{H}_{t=35}$= 4 female bears/year. Under this harvest strategy, the subpopulation would have a negligible probability of crossing below the minimum threshold (i.e., $P_{t=35}^{N>thresh}$= 1.0) and a negligible probability of extirpation (i.e., P_{ext} = 0.00).

For Scenario 3b the posterior distribution of r_{max} from population reconstruction had a mean of 0.08 (95% CI = 0.05-0.11). The posterior of $N_{t=1}/K_{t=1}$ had a mean of 0.73 (95% CI = 0.51-0.91). Under this scenario, the SH subpopulation was capable of strong growth 1986-2016. The population reconstruction for Scenario 3b provided a reasonable fit to historic data (Figure 9).

Although retrospective projections for Scenario 3b (Figure 9) appear similar to those for Scenario 1 (Figure 6), the key difference is that K was represented by a logistic function and started to decline rapidly in the mid-2000s under Scenario 3b, whereas K remained stable until 2016 and declined only gradually after that under Scenario 1. For Scenario 3b the estimated location of the logistic curve's midpoint was timestep t = 24 (95% CI = 8-42) of forward projections, which corresponds to the year 2039. The estimated steepness parameter in the logistic function was -0.22 (95% CI = -0.40 to -0.04).

Simulations for Scenario 3b indicated that a subpopulation with these characteristics would be relatively insensitive to harvest (Table 6). Because r_{max} remained high, the subpopulation maintained its ability to compensate for human-caused removals through reduced negative density effects. Furthermore, a collapsing K made extirpation unavoidable regardless of human-caused removals. These dynamics are best demonstrated by visualizing forward projections for Scenario 3b with no harvest (Figure 10a) and with h = 0.055 (Figure 10b). The two trajectories are nearly parallel because, when the effects of habitat loss are density dependent, it is possible to maintain N slightly below a declining K without accelerating subpopulation declines. Note that, in Figure 10, individual trajectories that decline from a relatively high N (e.g., 200 bears) to N = 0 in one timestep are a consequence of strongly negative growth rates when K is declining rapidly and r_{max} is large. This phenomenon is, to some extent, a mathematical idiosyncrasy of the theta-logistic equation. Nonetheless, Scenario 3b demonstrates that a rapid and unidirectional collapse in *K* could result in a high probability of extirpation that is minimally influenced by harvest. This is different from Scenario 3a, under which the probability of extirpation was negligible in the absence of harvest and increased rapidly at higher harvest rates.

Discussion

This report presents a provisional harvest risk assessment for the SH polar bear subpopulation. The assessment was based on a custom demographic model that has a structure consistent with the available data and was able to reproduce recent trends for the SH subpopulation. During forward projections the model incorporated the potential effects of sea-ice loss due to climate change, a primary threat to polar bears throughout much of their range (Atwood et al. 2016; Regehr et al. 2016). The final results are a series of potential harvest strategies and their estimated effects. Results are presented for several plausible biological scenarios due to uncertainty in the current and future status of the subpopulation.

Demographic status of the Southern Hudson Bay polar bear subpopulation

Recent demographic data for the SH subpopulation are primarily from capture-recapture studies in the 1980s and 2000s (Obbard et al. 2007) and two aerial surveys in the 2010s (Obbard et al. 2015, 2018). Assessing trends in abundance is complicated by differences in the geographic distribution of sampling effort and in the definition of the study population for capture-recapture studies and aerial surveys. Although we adjusted estimates of *N* to improve consistency between the study types this may not have been accurate due to lack of information on subpopulation composition and animal movements. We conclude that it is not possible to evaluate long-term trends in the size of the SH subpopulation based on published information. There is evidence of a likely decline from 943 bears in 2012 (Obbard et al. 2015) to 780 bears in 2016 (Obbard et al. 2018) based on aerial surveys that had consistent methodology. Such a decline appears consistent with loss of sea-ice habitat due to climate change and documented declines in nutritional condition (Obbard et al. 2016). Declines in abundance estimates for the adjacent WH subpopulation during the period 2011-2016, although not statistically significant, suggest that changes in the SH subpopulation were not caused by movement of bears to the north, and that the two subpopulations may be exhibiting similar responses to broader ecosystem change (Stapleton et al. 2014; Dyck et al. 2017). However, Indigenous Knowledge does not support the conclusion of a declining SH subpopulation (Laforest et al. 2018; NMRWB 2018). This perspective, together with multiple types of scientific uncertainty about the status of the SH subpopulation, led to the development of the most optimistic Scenario 1. Furthermore, declines in the number of ice-covered days have been smaller for SH bears than for other subpopulations (Stern and Laidre 2016) and previous studies have not identified relationships between annual sea-ice conditions and vital rates or nutritional status (Obbard et al. 2007, 2016). The demographic status of the SH subpopulation is likely a function of multiple, interacting factors that operate at different time scales and cannot be resolved with the current data.

We used vital rates from Obbard et al. (2007, 2010) in a matrix-based projection model (Regehr et al. 2017b) to estimate maximum intrinsic growth rate (r_{max}) in 1986 and 2005. The estimate of r_{max} = 0.10 for the 1980s was high for polar bears, suggesting a strong capacity for growth and ability to support harvest, assuming this estimate was unbiased. In contrast, the estimate of r_{max} = 0.02 for the early 2000s was low for polar bears. This may be due to negative bias in survival estimates, which is common at the end of capture-recapture studies for mobile animals (Devineau et al. 2006; Regehr et al. 2009). Some degree of bias seems likely given that, if r_{max} were this low and did not increase after 2005, the SH subpopulation would likely have been severely overharvested in recent decades and declined to a small size. It is unknown to what extent low estimates of survival in the early 2000s reflect bias, true declines (e.g., due to habitat loss), or both. High statistical uncertainty in estimated vital rates further complicates interpretation. We note that bias in survival would suggest bias in estimates of N as well, because the two parameters are linked within the capture-recapture framework. This is less of a concern, however, because mean percent relative bias of a similar magnitude (e.g., -5%) in survival and abundance have substantially different ramifications for population dynamics.

Additional insight into the status of the SH subpopulation can be gained from the harvest data. We accounted for incomplete reporting in some jurisdictions by representing harvest reporting probability as a random variable, although the accuracy of this approach cannot be confirmed. For example, we assumed that reporting probability in Québec followed a diffuse uniform distribution whereas anecdotal evidence suggests that reporting may be positively correlated with the market price of polar bear hides. Use of inaccurate harvest data during population reconstruction could lead to biased estimates of theta-logistic model parameters (see below), which in turn could influence estimates of harvest risk. Taking statistical uncertainty into account, the mean total (i.e., female and male) harvest rate of approximately 0.07 (95% CI = 0.03-0.15) for the period 1985-2016 was likely higher than the 4.5% harvest rate that been considered sustainable for polar bears at a 2:1 male-to-female ratio when environmental conditions are favorable (Taylor et al. 1987). The fact that abundance in the 2010s appeared broadly comparable to previous estimates seems consistent with other evidence that the SH subpopulation was, on average, capable of strong growth in recent decades. However, it is possible that harvest was a partial factor in declines in abundance during the period 2012-2016. Furthermore, some harvest occurs on the sea ice in spring when the SH subpopulation intermixes with the adjacent Western Hudson Bay and Foxe Basin subpopulations (Viengkone et al. 2018), meaning that some animals removed from the SH management unit are members of adjacent subpopulations. Additional data and analyses are required to understand how movements of polar bears in the Hudson Bay region affect research and management of the SH subpopulation.

Assessment of harvest effects

We evaluated harvest under several biological scenarios that were developed using different approaches to population reconstruction together with different assumptions about trends in K and r_{max}. We considered multiple scenarios because of uncertainty in the current and future demographic status of the SH subpopulation. Unlike the adjacent Western Hudson Bay subpopulation (Lunn et al. 2016), empirical estimates of relationships between environmental conditions and subpopulation growth rate were not available. We intended the scenarios to encompass a range of plausible biological conditions, from optimistic to pessimistic. One consequence of using multiple scenarios is that multiple harvest strategies could meet management objectives, depending on which scenario is considered. Although this makes it difficult to recommend a specific harvest strategy, it has the advantage of clearly presenting scientific uncertainty in the status of the SH subpopulation and its ability to support human-caused removals. Comparing the future status of the SH subpopulation against the biological scenarios in this report may help inform how habitat loss is affecting the subpopulation and, by extension, which scenario is most relevant to management. More broadly, the analyses in this report provide a basis for quantitative and testable biological hypotheses, a key component of evidenced-based wildlife management (Houlahan et al. 2017).

Population reconstruction for Scenario 1 estimated r_{max} = 0.08, which is high compared to other case studies for polar bears (Regehr et al. 2017b). This suggests that the SH subpopulation was, on average, capable of strong growth during the period 1986-2016. Forward projections for Scenario 1 reflected this optimistic hypothesis that the status of the SH subpopulation for the next 35 years will be similar to the past 30 years, with only gradual declines in *K* proportional to projected declines in the number of ice-covered days per year in the SH management area. However, for this to be true, one must assume that the apparent decline in *N* between 2012 and 2016 was either not real or a transient phenomenon, and that continued sea-ice loss will have only minor density-dependent effects. For Scenario 1, a harvest strategy with a female harvest rate *h* = 0.055 resulted in an approximately 80% probability of meeting Management Objective 1, which was to maintain *N* above maximum net productivity level (i.e., $P_{t=35}^{N>MNPL} \approx 0.80$). This placeholder harvest strategy fell between the "low" and "medium" degrees of risk tolerance used in other studies (Regehr et al. 2017a, 2018a; see section "Management framework") and therefore seemed reasonable for demonstration. The starting harvest level for this strategy was 21 female bears/year (Table 3), which is similar to the mean observed harvest of approximately 19 female bears/year 1986-2016. This makes sense given the assumptions of Scenario 1 and suggests that our modeling approach can reproduce plausible behaviors for the SH subpopulation. Overall, simulations for Scenario 1 suggest that the SH subpopulation could continue to support a female harvest in the vicinity of 20 bears/year provided that environmental conditions are relatively stable, the subpopulation remains capable of strong growth, and a state-dependent harvest management framework is in place with complete harvest reporting and a 5-year management interval. Given the combined evidence for habitat loss, ecosystem change, and declining abundance for the SH subpopulation, the TWG considered Scenario 1 to be very optimistic and likely unrealistic. Therefore, we recommend that results from this scenario should not be a primary basis for management decisions.

Population reconstruction for Scenario 2 estimated r_{max} = 0.05, which is average for polar bears. This estimate was lower than for Scenario 1 because Scenario 2 used data from 2005-2016 only. This excluded the high empirical estimate of r_{max} in 1986 (Obbard et al. 2007) and placed more weight on the lower estimate of N in 2016 (Obbard et al. 2018). Forward projections for Scenario 2 included declines in both r_{max} and K in proportion to projected sea-ice declines. Scenario 2 reflected the middle-of-the-road hypothesis that the status of the SH subpopulation for the next 35 years will be similar to the past decade, during which there is some evidence of demographic declines, and that continued sea-ice loss will have gradual but progressive density-dependent and density-independent effects. For Scenario 2, a harvest strategy with h = 0.025 corresponded to approximately $P_{t=35}^{N>MNPL}$ = 0.80 (Table 4). The starting harvest level for this strategy was 10 female bears/year. Assuming that the proportion of females in the SH subpopulation is currently 0.50, this would correspond to a total (i.e., female and male) harvest rate of approximately 0.038, provided that harvest adheres to a 2:1 male-to-female ratio. This is slightly below the 4.5% rate at a 2:1 male-to-female ratio that has generally been considered sustainable under favorable environmental conditions. Insight can be gained by taking a harvest strategy that appears sustainable under one scenario and evaluating its potential effects under a different scenario. For example, a strategy with h = 0.55 was unlikely to have negative subpopulation-level effects under Scenario 1 (Table 3). However, if this strategy was applied to a subpopulation with a demographic status like Scenario 2 it could result in a high probability of subpopulation depletion (e.g., $P_{t=35}^{N>MNPL}$= 0.17), a moderate probability of crossing below the minimum threshold ($P_{t=35}^{N>thresh}$ = 0.64), and lost opportunities for sustainable use (Table 4).

Scenario 3 included two pessimistic representations of the SH subpopulation that have different ramifications for harvest. Population reconstruction for Scenario 3a estimated r_{max} = 0.03, which is low for polar bears. This was a consequence of using a prior distribution for r_{max} with a smaller mean together with data from 2012-2016 only. Similar to Scenario 2, forward projections for Scenario 3a included projected declines in both r_{max} and *K*. Scenario 3a reflected the pessimistic hypothesis that the SH subpopulation has recently experienced, or soon will experience, strong density-independent limitation and that continued sea-ice loss will have gradual but progressive density-dependent and density-independent effects. For Scenario 3a, a harvest strategy with *h* = 0.01 corresponded to approximately $P_{t=35}^{N>MNPL}$ = 0.80 (Table 5). The starting harvest level for this strategy was 4 female bears/year. Scenario 3a demonstrates the potential for severe overexploitation when the capacity for growth is compromised. For example, a harvest strategy with *h* = 0.055 would result in near-certain subpopulation depletion (e.g., $P_{t=35}^{N>MNPL}$= 0.01), a high probability of crossing below the minimum abundance threshold ($P_{t=35}^{N>thresh}$ = 0.28), and a moderate probability of extirpation in the next 35 years (P_{ext} = 0.23). This is in strong contrast to Scenario 1, under which *h* = 0.055 was unlikely to have negative effects.

Population reconstruction for Scenario 3b used data and priors similar to Scenario 1, resulting in a similar estimate of r_{max} = 0.08. However, Scenario 3b included a nonlinear decline in *K* 1986-2016 that continued and accelerated during forward projections. Scenario 3b reflected the pessimistic hypothesis that, although the SH subpopulation will maintain its capacity for growth given sufficient habitat, loss of sea ice will result in a rapid and unidirectional collapse in *K* in the next 35 years. In contrast to Scenario 3a, subpopulation outcomes for Scenario 3b were insensitive to harvest (Table 6). A rapidly declining *K* guaranteed that *N* would decline as well. Furthermore, a high r_{max} allowed for a compensatory response to harvest. This meant that natural mortality due to declining *K* could be largely replaced by human-caused mortality, without accelerating subpopulation declines. Scenarios 3a and 3b are extreme examples of density-independent and density-dependent effects of habitat loss, respectively. Furthermore, caution is required when interpreting results for Scenario 3b because it does not allow for the possibility that *K* will stabilize at a lower level or eventually recover, in which case harvest could contribute to extirpation that otherwise may have been avoidable. Although Scenarios 3a and 3b are both likely oversimplifications of how sea-ice loss might impact polar bears (e.g., Bromaghin et al. 2015), they demonstrate that the mechanisms of habitat change can have a strong influence on the effects of human-caused removals. These findings also provide a cautionary note for management because, without high quality scientific data, it will be difficult to distinguish between these scenarios.

We evaluated a wide range of harvest strategies, some of which may not be viable management options. For example, a harvest that is aggressive under Scenario 1 (e.g., h = 0.06) would have severe negative biological effects under all but optimal conditions. Conversely, a harvest that is conservative under Scenario 3a could result in lost opportunities for subsistence use. To evaluate the biological risks of harvest, we suggest orienting toward Scenario 2 at a moderate degree of risk tolerance with respect to Management Objective 1 in the near term. This approach would suggest female harvest rates of h = 0.02-0.03, which correspond to starting harvest levels of 8-12 female bears/year. This is equivalent to a total (i.e., female and male) harvest rate of approximately 2.0-3.0% assuming a 1:1 male-to-female sex ratio in the harvest, and a total harvest rate of approximately 3.0-4.5% assuming a 2:1 male-to-female sex ratio. These mid-range strategies have the benefit of limiting lost opportunities for use if conditions are more like Scenario 1, while reducing the chances of severe overexploitation if conditions are more like Scenario 3a. Working from this starting point, managers can weigh the pros and cons of lower and higher harvests in terms of biological risk, opportunities for use, and other considerations (e.g., human safety). Adherence to a 5-year management interval will facilitate adjustments to the harvest if new information suggests that management objectives are not being met.

Our assessment considered female bears only because the theta-logistic equation did not include a detailed model of reproduction. The benefits of sex-selective harvest have been demonstrated for multiple game species (e.g., White et al. 2001) and applied successfully to polar bears (Obbard et al. 2010). Previous stochastic modeling has suggested that it is possible to harvest polar bears at a 2:1 male-to-female ratio without depleting males, provided that the female harvest remains below *MSY* (Taylor et al. 2008). We caution that Taylor et al. (2008) used values of *MSY* that are lower than some estimates from recent modeling, and that imperfect demographic information and time-lags in management can increase the chances of reducing adult males to the point where reproduction is compromised (Regehr et al. 2017b). The risk of overexploiting male bears could be mitigated, while still protecting females, by harvesting at a 2:1 sex ratio while using a conservative female harvest rate and monitoring subpopulation composition.

Management framework

Our analyses assume there will be a state-dependent harvest management framework in place for the SH subpopulation that can respond to future changes in subpopulation status. This requires a coupled research-management framework that can monitor the harvest, obtain periodic estimates of *N*, and use updated information to modify harvest levels. All simulations assumed that new aerial surveys will be completed every 5 years with a level of precision similar to the surveys in 2012 and 2016 (Obbard et al. 2015, 2018). Longer management intervals (i.e., > 5 years) would be associated with higher levels of risk for a given harvest strategy, because there would be fewer opportunities to identify and correct for overharvest resulting from biased estimates of demographic parameters, ecological change, or other factors. Similarly, lower precision in estimates of *N* would be associated with higher risk. If there is uncertainty in the ability to implement state-dependent harvest management with these conditions, adopting a more conservative approach to harvest will be necessary to mitigate risk. In future applications, it would be possible to evaluate the costs and benefits of research investment by modeling subpopulation assessments with different timing and levels of precision.

We evaluated harvest relative to three management objectives. Management Objective 1 sought to harvest at a level approaching maximum sustainable yield while implementing the well-established safeguard of maintaining *N* > maximum net productivity level (*MNPL*; Regehr et al. 2017a, 2018a). Because *MNPL* is defined relative to a potentially changing *K*, this objective can accommodate changes in habitat (e.g., it does not seek to maintain an historic level of abundance in the face of habitat declines). In the current report, we focused on Management Objective 1 because it is well suited to balancing opportunities for use with protecting subpopulation viability when the environment is changing (USFWS 2016).

Management Objective 2 sought to maintain *N* above 90% of its starting value. We included this objective because similar metrics have been used in harvest risk assessments when habitat is stable and the goal is to prevent subpopulation declines (e.g., Taylor et al. 2006). Unlike Management Objective 1, this objective is defined relative to a static abundance and does not accommodate potential changes in *K*.

Management Objective 3 sought to maintain *N* above a minimum size at which the subpopulation would be demographically compromised. This objective does not provide a safeguard against overharvest and, if not used in conjunction with other biologically-sound management objectives, could lead to subpopulation depletion and the loss of opportunities for sustainable use. The number of bears corresponding to the minimum threshold likely varies across subpopulations as a function of multiple interacting factors. We subjectively used a threshold of 175 females because this value corresponds to a previously suggested value of 350 total bears (USFWS 2016), assuming that females comprise half of the SH subpopulation. We report Management Objective 3 because it conveys the probability that the subpopulation will become threatened to the extent that emergency management measures might be warranted. Threshold harvest rules, under which harvest is curtailed or closed below a pre-specified abundance level, can be an effective conservation measure (Fuller et al. 2015). USFWS (2016) expanded this concept to a three-level system under which graduated management and conservation actions are tied to pre-established thresholds (Figure 11). For example, if subpopulation abundance dropped below a certain level, it might trigger a research plan that included more frequent surveys or collection of detailed vital rates using capture-recapture methods. These thresholds and actions can extend beyond harvest to encompass a range of factors such as the type and intensity of monitoring, mitigation of human-bear conflicts, and management of disturbance from industry and other human activities. Furthermore, the choice thresholds and actions can be made by the agencies responsible for research and management on a subpopulation basis. In light of uncertainties about the effects of climate change on the SH subpopulation, we suggest that a multi-level system of this type could help protect subpopulation viability while maintaining opportunities for use.

Demographic model

For long-lived species such as polar bears, population dynamics theory and empirical data (Fowler 1987, Wade 1998) suggest that most density-dependent change occurs at high population sizes (i.e., as N approaches K). The demographic model allowed for nonlinear density dependence by using a discrete version of the theta-logistic equation with a fixed value of the shape parameter θ (USFWS 2016). Because of its simple structure, the model has several limitations compared to more detailed models that are based on the polar bear life cycle and incorporate stage-specific vital rates (e.g., Regehr et al. 2017b). Specifically, the theta-logistic equation did not include sex structure, age structure, a mechanistic representation of reproduction or maternal care, the ability to consider individual differences in reproductive value or harvest vulnerability, positive density dependence (i.e., Allee effects), or differences in individual energetic requirements. Furthermore, we did not consider alternative values of the density-dependent shape parameter because data were too sparse to estimate θ specifically for the SH subpopulation (Clark et al. 2010). Johnson et al. (2018) suggested that the theta-logistic equation captured important population dynamics for an age-structured population of waterfowl, but comparative studies between the theta-logistic equation and matrix-based projection models have not been performed for polar bears. The structural limitations discussed above, together with uncertainties in the demographic data and other factors, mean that results from the demographic model should be interpreted with caution.

In the current report the effects of habitat loss are represented as density dependent (i.e., changing K), density independent (i.e., changing r_{max}), or both. The mechanisms of population change can influence the ability of a population to support harvest (Saether et al.

1996), as demonstrated by our simulations. For polar bears, both density-dependent and density-independent effects are possible (Regehr et al. 2017b) because sea-ice loss is both spatial and temporal in nature (Stern and Laidre 2016). Recent harvest risk assessments have assumed that the effects of habitat change are primarily density dependent, such that sea-ice loss leads to declines in *K* without concurrent changes in r_{max} (e.g., Regehr et al. 2018a). This assumption may be justified for subpopulations that are in the early stages of habitat loss and have a coupled research-management framework that can detect changes in *N* as well as density-independent changes in r_{max}. We evaluated both density-dependent and density-independent changes for the SH subpopulation because aerial surveys from the 2010s suggest that *N* may have already declined, and because current research does not provide information about vital rates, nutritional condition, or other factors that can help detect changes in r_{max}. Our simulations demonstrate how failure to reduce harvest rate in response to declines in r_{max} can lead to accelerated subpopulation declines.

We describe the demographic model in this report as provisional because it was developed under a timeline set by management needs and may not take advantage of all available biological information for the SH subpopulation. It does not propagate all sources of parametric, model-based, and environmental variation in an integrated manner and we did not perform sensitivity analyses to evaluate key assumptions, including the choice of prior distributions for parameters of the theta-logistic equation. Other potential areas for development include recasting the population reconstruction in a formal Bayesian framework, exploring mechanistic links between *K* and r_{max}, and investigating the potential for an integrated population model that could use all available data to directly estimate the demographic parameters needed for a harvest risk assessment.

Research and monitoring

Harvest risk assessments can help to identify data gaps and thus suggest future research, monitoring, and analytical approaches. Several biological questions in this report cannot be resolved with available data because current research on the SH subpopulation is focused on the use of aerial surveys, which provide estimates of *N* but little additional biological or ecological information. The statistical power to detect changes in *N* from sequential aerial surveys can be low. Given evidence for declining abundance of the SH subpopulation during the period 2012-2016, and the implications for conservation and management if apparent declines continue or accelerate (e.g., similar to Scenarios 3a or 3b), priority should be placed on obtaining an updated abundance estimate from aerial surveys or other methods in the near future (e.g., ≤5 years). Application of satellite telemetry would provide data on polar bear movements and distribution (Obbard and Middel 2012) that can be critical for estimating unbiased demographic parameters. For example, Regehr et al. (2018b) developed an integrated population model for Chukchi Sea polar bears that concurrently analyzed capture-recapture and satellite telemetry data. Having data on animal movements made it possible to delineate temporary emigration from mortality (i.e., to determine whether animals left the study area or died), which was necessary to obtain estimates of survival and abundance that were useful for management (Regehr et al. 2018a). In general, physical capture-recapture studies provide information on population health, nutritional condition, movements, habitat use, and vital rates (Vongraven 2012) that can help improve our understanding of subpopulation status and frame the overall management approach. For example, information on range expansions and improved nutritional condition provided evidence that the Kane Basin subpopulation may be experiencing transient benefits from lighter sea-ice conditions (SWG 2016). Similarly, long-term declines in physical stature and condition (Stirling et al. 1999; Rode et al. 2010) have preceded evidence for demographic declines due to sea-ice loss in some other subpopulations (Regehr et al. 2007, 2010; Bromaghin et al. 2015; Lunn et al. 2016). In the context of managing human-caused removals, the information obtained from capture-recapture studies can allow a state-dependent approach under which both the harvest rate and harvest level can be adjusted in response to changing environmental conditions, resulting in a more robust system. In future applications, the demographic model could be used to assess the costs and benefits of alternative research methods (e.g., the extent to which having updated estimates of r_{max} could mitigate harvest risk).

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Supplementary Materials

Appendix 1: Example R-language function describing the demographic model for the SH polar bear subpopulation

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Tables and Figures

Table 1. Abbreviations, parameters, and indexing definitions used in the demographic model for the Southern Hudson Bay polar bear subpopulation.

Term	Definition
CV	Coefficient of variation, defined as a ratio of the standard deviation to the mean of a statistical distribution of values. The CV reflects the level of uncertainty in an estimate, compared to the value of the estimate.
h	Harvest rate, defined as the percentage of subpopulation abundance that is removed each year through harvest. Unless otherwise noted, *h* refers to the female harvest rate, which is the proportion of females removed annually.
h^{total*}	Total (i.e. female and male) harvest rate expressed as the proportion of total bears removed annually assuming a 2:1 male-to-female ratio in removals.
H	Harvest level, measured in numbers of female polar bears removed each year.
$\overline{\boldsymbol{H}}_{\boldsymbol{t}}$	Mean annual female harvest level at timestep *t* during subpopulation projections.
κ	A dimensionless metric representing proportional changes in carrying capacity (*K*), calculated from the number of ice-covered days per year
K	Environmental carrying capacity, defined as the maximum number of individuals in a subpopulation that can be supported by the environment. In this report, *K* is measured in numbers of female polar bears and does not consider age structure or other factors.
$\overline{\boldsymbol{K}}_{\boldsymbol{t}}$	Mean carrying capacity at timestep *t* during subpopulation projections.
management interval	The number of years between successive subpopulation studies and changes to the calculated harvest level based on updated estimates of abundance and vital rates.
MNPL	The subpopulation abundance that results in the greatest net annual increment in subpopulation numbers resulting from reproduction minus losses due to natural mortality. The value of *MNPL* depends on how density dependence operates in a subpopulation.
MSY	Maximum sustainable yield.

N	Subpopulation abundance, measured in numbers of female polar bears unless otherwise noted. Subpopulation abundance in the demographic model does not reflect age or reproductive structure.
$\tilde{N}$	An estimate of subpopulation abundance selected as the 50th percentile of its sampling distribution, used to calculate harvest level under a state-dependent harvest management approach.
$\bar{N}_t$	Mean subpopulation abundance at timestep *t* during subpopulation projections.
P_{ext}	Probability of extirpation, defined as abundance falling below a quasi-extinction threshold of 15% of starting subpopulation size.
$P_t^{N>MNPL}$	Probability that abundance is greater than maximum net productivity level (*MNPL*) at annual timestep *t*. This metric is used for Management Objective 1.
$P_t^{N>0.9N1}$	Probability that abundance is above 90% of starting abundance at annual timestep *t*. This metric is used for Management Objective 2.
$P_t^{N>threshold}$	Probability that abundance is above a minimum threshold of 175 female bears at annual timestep *t*. This metric is used for Management Objective 3.
PBSG	Polar Bear Specialist Group of the International Union for the Conservation of Nature.
$r_{max,}$, r_{pot}, r_{MNPL}	Intrinsic population growth rates. The maximum intrinsic growth rate (r_{max}) occurs at a low density relative to carrying capacity; r_{pot} is a potential growth rate at an unspecified density; r_{MNPL} refers is the potential growth rate at a density referenced to maximum net productivity level. Values of *r* refer to unharvested, potential growth rates that provide measures of the resilience of a subpopulation.
risk tolerance	A statement of the required probability of meeting a management objective. Low risk tolerance generally implies a conservative approach that is very likely to meet objectives, while high risk tolerance implies a less conservative approach that accepts more risk of not meeting objectives.
S	Unharvested survival rate.
S^{total}	Total survival rate, which includes harvest mortality.
sd	Standard deviation, a statistical measure that quantifies the amount of variation of a set of numbers around the mean (i.e., average) value.

se	Standard error, a statistical measure that quantifies the amount of variation associated with an estimated parameter
SH subpopulation	The Southern Hudson Bay subpopulation of polar bears as recognized by the Polar Bear Specialist Group (PSBG) of the International Union for the Conservation of Nature. In the report we follow the example of the PBSG by referring to polar bear "subpopulations", except when using common terminology (e.g., "population projections").
state-dependent harvest management	An approach to harvest management under which harvest depends on the current status (i.e., "state") of a subpopulation. Under state-dependent harvest management, harvest levels are updated periodically (e.g., every 10 years) based on new estimates of abundance and vital rates obtained from scientific studies.
t	Year. When used to reference annual time steps during subpopulation projections, t = 1, 2, …, T.
θ	A parameter in the theta-logistic equation that determines the relationship between population density and population growth.

Table 2. Estimates of total (i.e., female and male) abundance for the Southern Hudson Bay polar bear subpopulation used to inform development of a provisional demographic model. Methods to derive these values are explained in the main text.

Year	Total abundance (95% CI)	Proportion female
1986	802 (564-1044)	0.46
1986*	733 (496-975)	0.46
2005	842 (564-1118)	0.57
2005*	773 (496-1050)	0.57
2012	943 (650-1312)	0.50
2016	781 (590-1023)	0.50

*Estimates of abundance for 1986 and 2005 that have not been adjusted for bears on the small islands in James Bay and islands in eastern Hudson Bay.

Table 3. Subpopulation outcomes for simulations under Scenario 1, the most optimistic scenario for the Southern Hudson Bay polar bear subpopulation. $\overline{H}_t$ is the harvest level (female bears/year) at time step t; *h* is the time-constant female harvest rate expressed as the proportion of female bears removed annually; h^{total*} is the time-constant total (i.e. female and male) harvest rate expressed as the proportion of total bears removed annually assuming a 2:1 male-to-female ratio in removals; $\overline{N}_{t=35}$ is mean female abundance; $\overline{K}_{t=35}$ is mean environmental carrying capacity; and P_{ext} is the probability of extirpation. $P_{t=35}^{N>MNPL}$, $P_{t=35}^{N>0.9N1}$, and $P_{t=35}^{N>thresh}$ are the probabilities of meeting management objectives 1, 2, and 3, respectively. Management objectives are defined in the main text. Most outcomes are referenced to the final time step *t* = 35.

$\overline{H}_{t=1}$	h	h^{total*}	$\overline{N}_{t=35}$	$\overline{K}_{t=35}$	$\overline{H}_{t=35}$	P_{ext}	$P_{t=35}^{N>MNPL}$	$P_{t=35}^{N>0.9N1}$	$P_{t=35}^{N>thresh}$
0	0.000	0.000	424	437	0	0.00	0.99	0.97	1.00
2	0.005	0.008	421	437	2	0.00	0.99	0.97	1.00
4	0.010	0.015	418	437	4	0.00	0.99	0.97	1.00
6	0.015	0.023	414	437	6	0.00	0.99	0.97	1.00
8	0.020	0.030	410	437	8	0.00	0.99	0.97	1.00
10	0.025	0.038	404	437	10	0.00	0.99	0.97	1.00
12	0.030	0.045	398	437	12	0.00	0.99	0.95	1.00
14	0.035	0.053	391	437	14	0.00	0.98	0.92	1.00
16	0.040	0.060	382	437	16	0.00	0.97	0.85	1.00
18	0.045	0.068	372	437	17	0.00	0.94	0.76	1.00
20	0.050	0.075	359	437	18	0.00	0.87	0.63	1.00
21	0.055	0.083	343	437	19	0.00	0.78	0.50	0.99
23	0.060	0.090	324	437	20	0.00	0.67	0.36	0.97

Table 4. Subpopulation outcomes for simulations under Scenario 2, a middle-of-the-road scenario for the Southern Hudson Bay polar bear subpopulation. $\overline{H}_t$ is the harvest level (female bears/year) at time step t; *h* is the time-constant female harvest rate expressed as the proportion of female bears removed annually; h^{total*} is the time-constant total (i.e. female and male) harvest rate expressed as the proportion of total bears removed annually assuming a 2:1 male-to-female ratio in removals; $\overline{N}_{t=35}$ is mean female abundance; $\overline{K}_{t=35}$ is mean environmental carrying capacity; and P_{ext} is the probability of extirpation. $P_{t=35}^{N>MNPL}$, $P_{t=35}^{N>0.9N1}$, and $P_{t=35}^{N>thresh}$ are the probabilities of meeting management objectives 1, 2, and 3, respectively. Management objectives are defined in the main text. Most outcomes are referenced to the final time step *t* = 35.

$\overline{H}_{t=1}$	h	h^{total*}	$\overline{N}_{t=35}$	$\overline{K}_{t=35}$	$\overline{H}_{t=35}$	P_{ext}	$P_{t=35}^{N>MNPL}$	$P_{t=35}^{N>0.9N1}$	$P_{t=35}^{N>thresh}$
0	0.000	0.000	466	474	0	0.00	1.00	1.00	1.00
2	0.005	0.008	456	474	2	0.00	0.99	0.99	1.00
4	0.010	0.015	443	474	4	0.00	0.99	0.98	1.00
6	0.015	0.023	429	474	7	0.00	0.97	0.96	1.00
8	0.020	0.030	412	474	8	0.00	0.92	0.89	1.00
10	0.025	0.038	392	474	10	0.00	0.84	0.81	0.99
12	0.030	0.045	369	474	11	0.00	0.75	0.70	0.98
14	0.035	0.053	344	474	12	0.00	0.63	0.57	0.96
16	0.040	0.060	316	474	13	0.00	0.51	0.43	0.90
18	0.045	0.068	286	474	13	0.00	0.38	0.29	0.83
20	0.050	0.075	255	474	13	0.00	0.26	0.19	0.74
21	0.055	0.083	222	474	13	0.02	0.17	0.11	0.64
23	0.060	0.090	190	474	12	0.06	0.10	0.06	0.52

Table 5. Subpopulation outcomes for simulations under Scenario 3a, a pessimistic scenario with strong density-independent limitation for the Southern Hudson Bay polar bear subpopulation. $\overline{H}_t$ is the harvest level (female bears/year) at time step t; *h* is the time-constant female harvest rate expressed as the proportion of female bears removed annually; h^{total*} is the time-constant total (i.e. female and male) harvest rate expressed as the proportion of total bears removed annually assuming a 2:1 male-to-female ratio in removals; $\overline{N}_{t=35}$ is mean female abundance; $\overline{K}_{t=35}$ is mean environmental carrying capacity; and P_{ext} is the probability of extirpation. $P_{t=35}^{N>MNPL}$, $P_{t=35}^{N>0.9N1}$, and $P_{t=35}^{N>thresh}$ are the probabilities of meeting management objectives 1, 2, and 3, respectively. Management objectives are defined in the main text. Most outcomes are referenced to the final time step *t* = 35.

$\overline{H}_{t=1}$	h	h^{total*}	$\overline{N}_{t=35}$	$\overline{K}_{t=35}$	$\overline{H}_{t=35}$	P_{ext}	$P_{t=35}^{N>MNPL}$	$P_{t=35}^{N>0.9N1}$	$P_{t=35}^{N>thresh}$
0	0.000	0.000	492	518	0	0.00	0.99	1.00	1.00
2	0.005	0.008	463	518	2	0.00	0.91	0.95	1.00
4	0.010	0.015	432	518	4	0.00	0.79	0.81	1.00
6	0.015	0.023	400	518	6	0.00	0.67	0.70	1.00
8	0.020	0.030	367	518	8	0.00	0.56	0.59	0.98
10	0.025	0.038	332	518	9	0.00	0.46	0.48	0.90
12	0.030	0.045	297	518	9	0.00	0.36	0.39	0.80
14	0.035	0.053	262	518	10	0.00	0.25	0.29	0.69
16	0.040	0.060	227	518	10	0.00	0.15	0.18	0.58
18	0.045	0.068	192	518	9	0.01	0.07	0.08	0.48
20	0.050	0.075	156	518	8	0.10	0.02	0.02	0.38
21	0.055	0.083	122	518	7	0.23	0.01	0.00	0.28
23	0.060	0.090	92	518	6	0.35	0.00	0.00	0.19

Table 6. Subpopulation outcomes for simulations under Scenario 3b, a pessimistic scenario with strong density-dependent regulation for the Southern Hudson Bay polar bear subpopulation. $\overline{H}_t$ is the harvest level (female bears/year) at time step t; *h* is the time-constant female harvest rate expressed as the proportion of female bears removed annually; h^{total*} is the time-constant total (i.e. female and male) harvest rate expressed as the proportion of total bears removed annually assuming a 2:1 male-to-female ratio in removals; $\overline{N}_{t=35}$ is mean female abundance; $\overline{K}_{t=35}$ is mean environmental carrying capacity; and P_{ext} is the probability of extirpation. $P_{t=35}^{N>MNPL}$, $P_{t=35}^{N>0.9N1}$, and $P_{t=35}^{N>thresh}$ are the probabilities of meeting management objectives 1, 2, and 3, respectively. Management objectives are defined in the main text. Most outcomes are referenced to the final time step *t* = 35.

$\overline{H}_{t=1}$	h	h^{total*}	$\overline{N}_{t=35}$	$\overline{K}_{t=35}$	$\overline{H}_{t=35}$	P_{ext}	$P_{t=35}^{N>MNPL}$	$P_{t=35}^{N>0.9N1}$	$P_{t=35}^{N>thresh}$
0	0.000	0.000	107	126	0	0.56	0.41	0.09	0.30
2	0.005	0.008	107	126	1	0.56	0.41	0.09	0.30
4	0.010	0.015	107	126	1	0.56	0.42	0.09	0.30
6	0.015	0.023	108	126	2	0.55	0.42	0.09	0.30
8	0.020	0.030	107	126	3	0.55	0.42	0.08	0.30
10	0.025	0.038	107	126	3	0.55	0.43	0.08	0.30
12	0.030	0.045	107	126	4	0.54	0.43	0.08	0.30
14	0.035	0.053	106	126	4	0.54	0.43	0.07	0.30
16	0.040	0.060	105	126	5	0.54	0.44	0.06	0.30
18	0.045	0.068	104	126	5	0.53	0.44	0.04	0.30
20	0.050	0.075	102	126	6	0.53	0.43	0.03	0.29
21	0.055	0.083	100	126	6	0.53	0.42	0.02	0.28
23	0.060	0.090	96	126	7	0.52	0.41	0.01	0.27

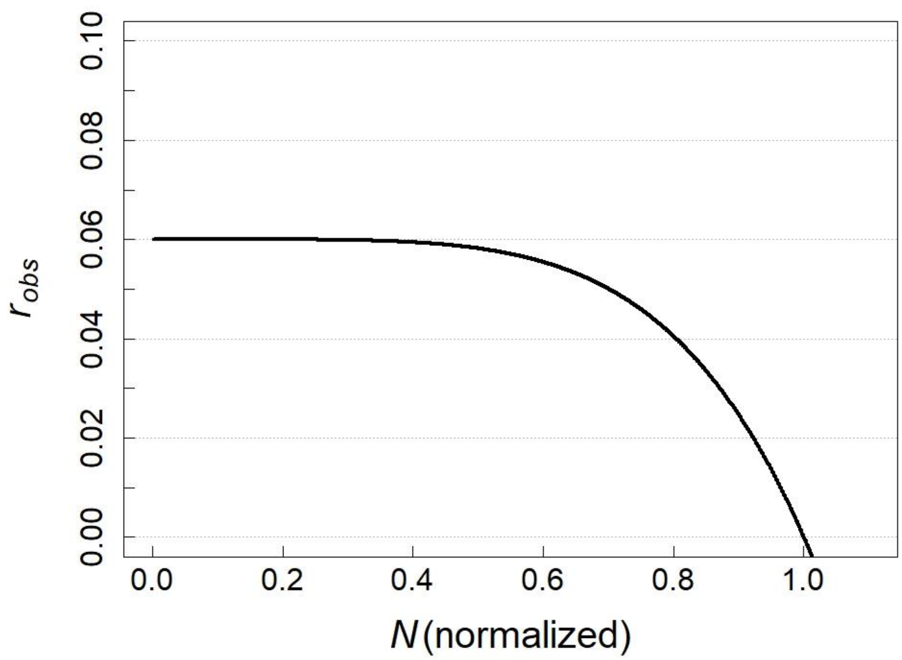

Figure 1. Example growth curve derived from a theta-logistic equation with the density-dependent shape parameter θ = 5.045 and maximum intrinsic growth rate r_{max} = 0.06. The x-axis is normalized abundance (*N*) such that environmental carrying capacity (*K*) occurs at *N* = 1. The y-axis is the observed growth rate (r_{obs}), which is equivalent to r_{max} at low densities and declines rapidly to 0 as $N/K \rightarrow 1$.

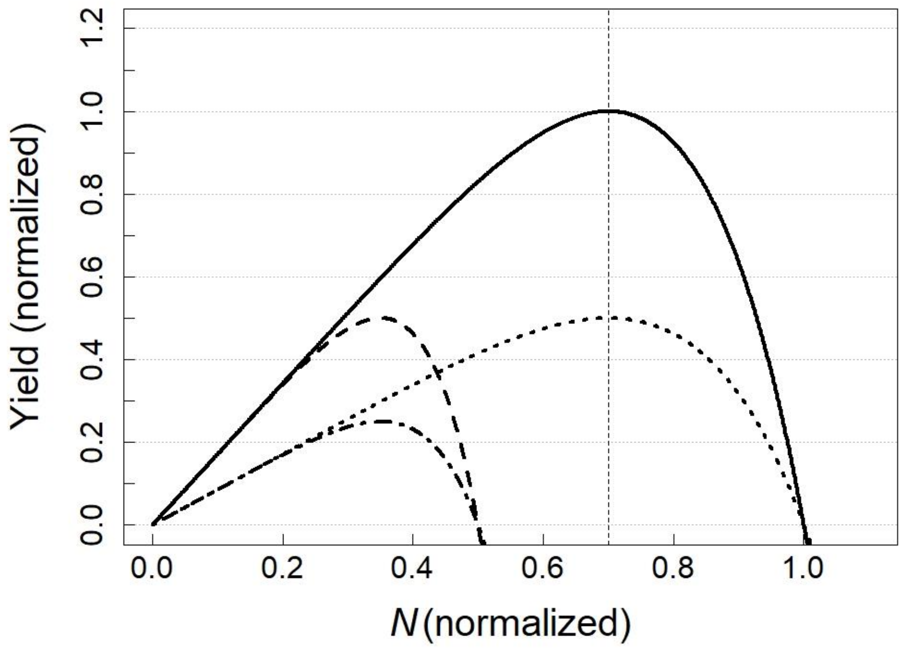

Figure 2. Example yield curves derived from a theta-logistic equation with the density-dependent shape parameter θ = 5.045. The solid black line is an example baseline curve with environmental carrying capacity K = 1 and maximum intrinsic growth rate r_{max} = 0.06. The x-axis is normalized abundance (N) such that environmental carrying capacity (K) occurs at N = 1 for the baseline curve. The y-axis is normalized yield such that maximum sustainable yield MSY = 1 for the baseline curve. The vertical dashed line represents maximum net productivity level, the subpopulation abundance at which maximum sustainable yield is achieved for the baseline curve. The dotted line shows the yield curve that would result if r_{max} was reduced to 0.03. The dashed line shows the yield curve if K was reduced to 0.5. The dot-dash line shows the yield curve if both r_{max} and K were reduced. The current demographic model does not include a mechanistic link between r_{max} and K.

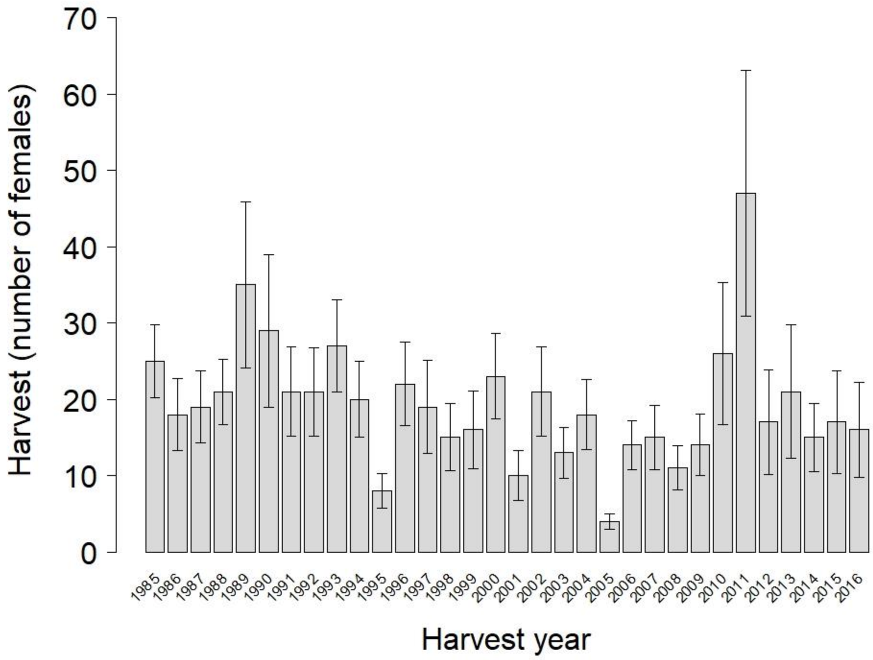

Figure 3. Approximate numbers of female polar bears removed by humans per harvest year in the Southern Hudson Bay polar bear subpopulation. Uncertainty in annual harvest numbers is represented by 95% confidence intervals (black error bars).

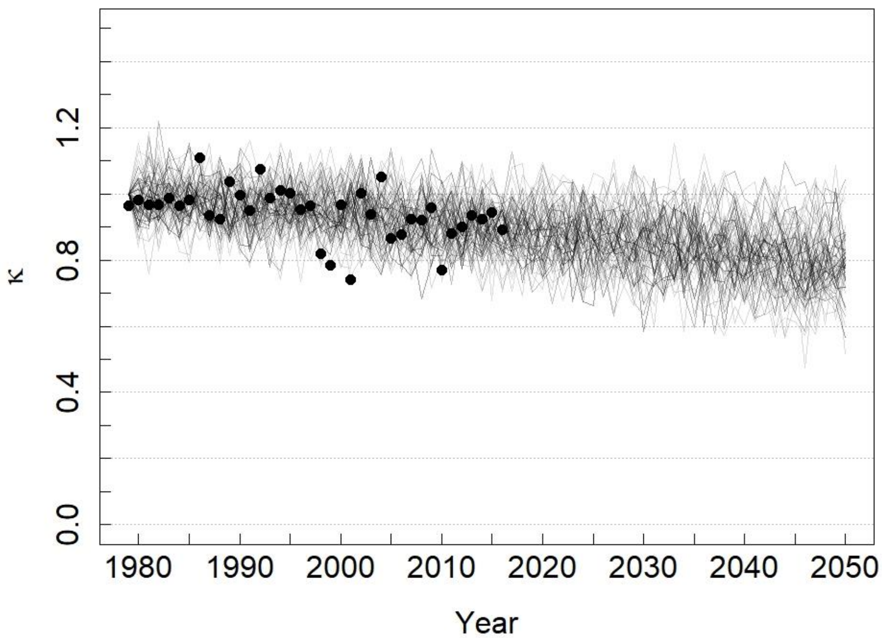

Figure 4. Stochastic projections (black lines) of the dimensionless parameter κ, which can be used in the demographic model to represent changes in environmental carrying capacity. The parameter κ was derived by standardizing the number of ice-covered days per year in the Southern Hudson Bay subpopulation boundary, as explained in the main text. Black dots represent standardized values of the observed number of ice-free days since the start of the satellite record. In this example, κ is projected forward for 35 years (approximately three polar bear generations) based on the slope of a linear model fit to the 1979-2016 sea-ice data.

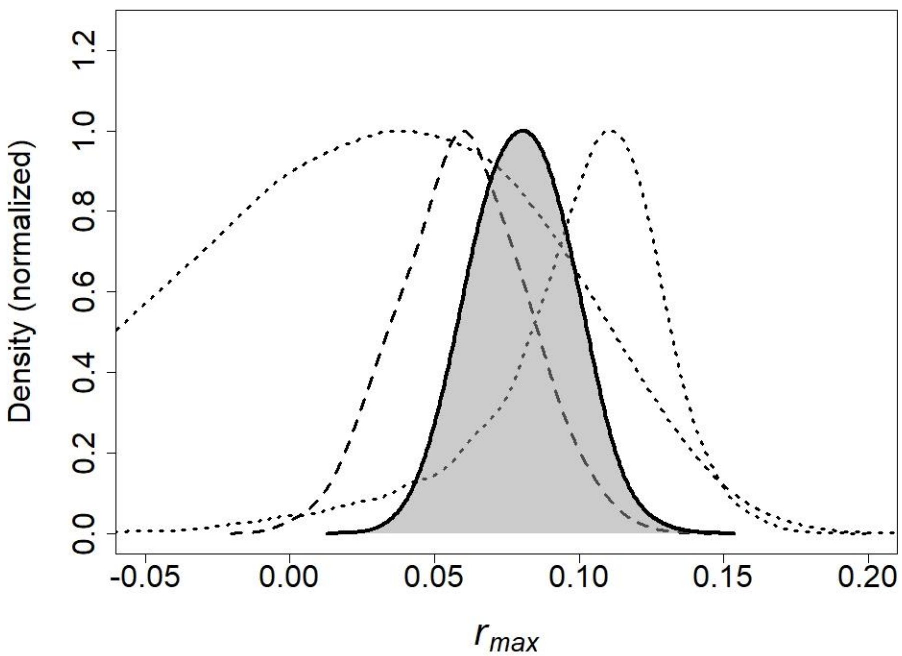

Figure 5. Distributions of maximum intrinsic growth rate (r_{max}) for the southern Hudson Bay polar bear subpopulation. The solid line with gray shading is the posterior distribution of r_{max} that was estimated using population reconstruction for Scenario 1. The dashed line is the prior for r_{max} derived from other case studies for polar bears. The two dotted lines are empirical estimates of r_{max} for 1986 (right curve) and 2005 (left curve) based on vital rates estimated from capture-recapture studies.

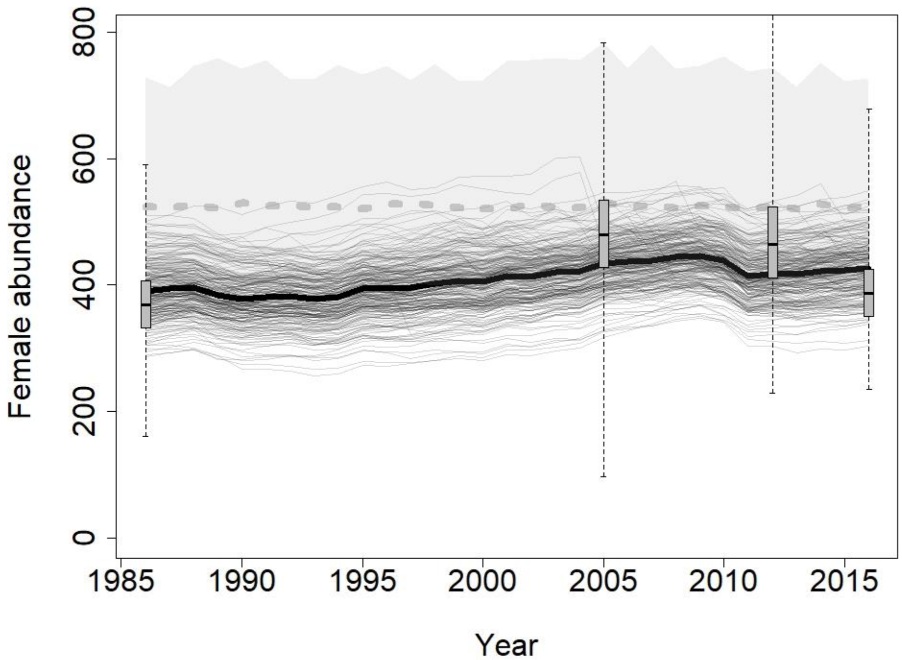

Figure 6. Scenario 1 population reconstruction: a sample of retrospective projections for female polar bears in the Southern Hudson Bay subpopulation, 1986-2016, using the theta-logistic model. The thin black lines are individual stochastic projections. The thick black line is the mean value of projected subpopulation abundance. In the background, the dashed light-gray line is the mean environmental carrying capacity (*K*) and the light-gray polygon represents the 95% confidence intervals on *K*. The box plots show the median, first and third quartiles, and range of empirical estimates of female abundance from capture-recapture studies (Obbard et al. 2007) and aerial surveys (Obbard et al. 2015, 2018).

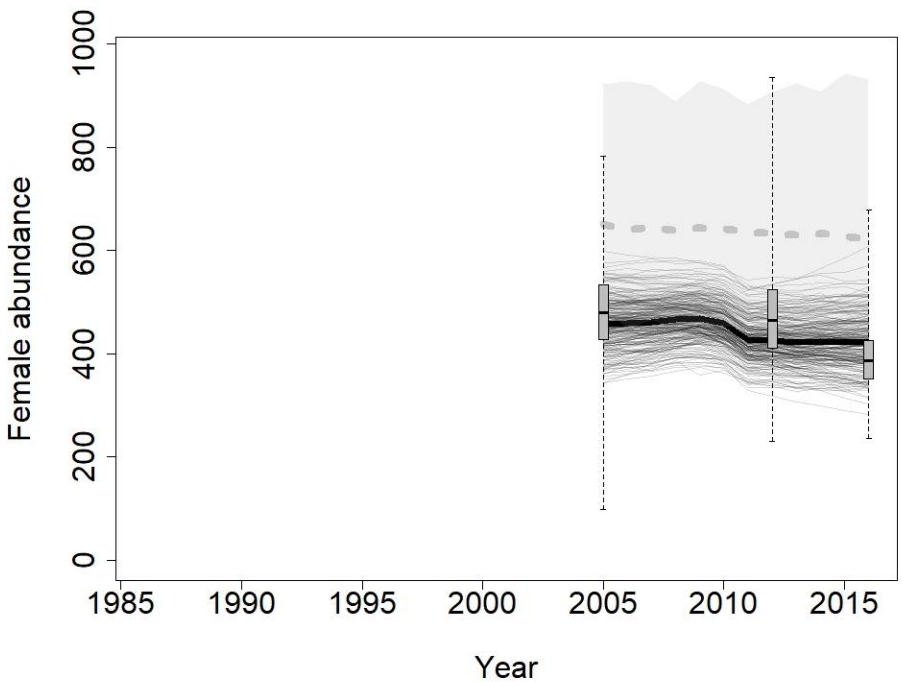

Figure 7. Scenario 2 population reconstruction: a sample of retrospective projections for female polar bears in the Southern Hudson Bay subpopulation, 2005-2016, using the theta-logistic model. The thin black lines are individual stochastic projections. The thick black line is the mean value of projected subpopulation abundance. In the background, the dashed light-gray line is the mean environmental carrying capacity (*K*) and the light-gray polygon represents the 95% confidence intervals on *K*. The box plots show the median, first and third quartiles, and range of empirical estimates of female abundance from capture-recapture studies (Obbard et al. 2007) and aerial surveys (Obbard et al. 2015, 2018).

Figure 8. Scenario 3a population reconstruction: a sample of retrospective projections for female polar bears in the Southern Hudson Bay subpopulation, 2012-2016, using the theta-logistic model. The thin black lines are individual stochastic projections. The thick black line is the mean value of projected subpopulation abundance. In the background, the dashed light-gray line is the mean environmental carrying capacity (*K*) and the light-gray polygon represents the 95% confidence intervals on *K*. The box plots show the median, first and third quartiles, and range of empirical estimates of female abundance from aerial surveys (Obbard et al. 2015, 2018).

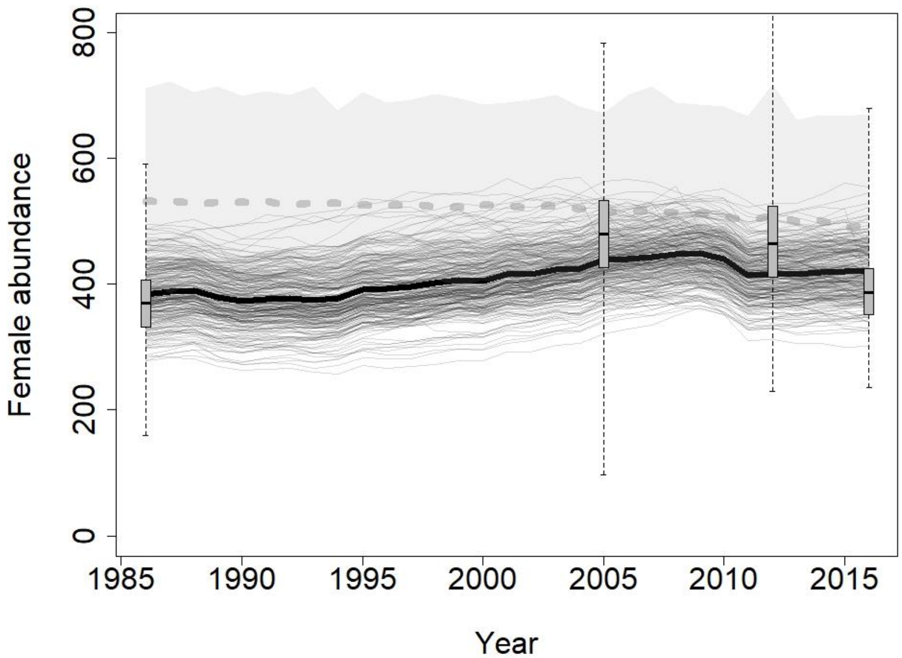

Figure 9. Scenario 3b population reconstruction: a sample of retrospective projections for female polar bears in the Southern Hudson Bay subpopulation, 1986-2016, using the theta-logistic model. The thin black lines are individual stochastic projections. The thick black line is the mean value of projected subpopulation abundance. In the background, the dashed light-gray line is the mean environmental carrying capacity (*K*) and the light-gray polygon represents the 95% confidence intervals on *K*. The box plots show the median, first and third quartiles, and range of empirical estimates of female abundance from capture-recapture studies (Obbard et al. 2007) and aerial surveys (Obbard et al. 2015, 2018).

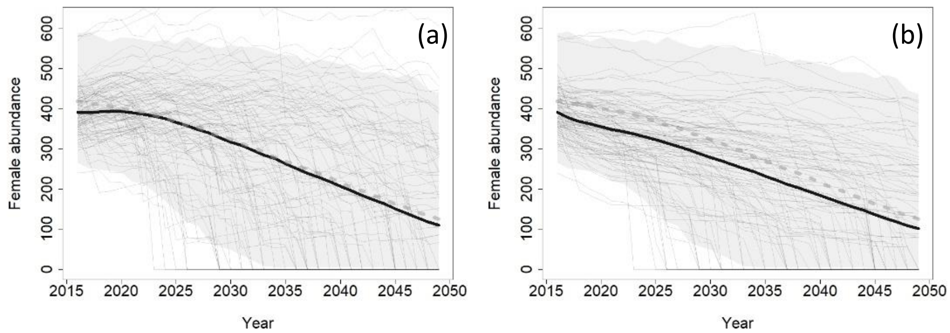

Figure 10. Scenario 3b forward projections: a sample of retrospective projections for female polar bears in the Southern Hudson Bay subpopulation, 2016-2049, using the theta-logistic model. The thin black lines are individual stochastic projections. The thick black line is the mean value of projected subpopulation abundance. In the background, the dashed light-gray line is the mean environmental carrying capacity (*K*) and the light-gray polygon represents the 95% confidence intervals on *K*. Panel (a) represents projections with a female harvest rate *h* = 0.00. Panel (b) represents projections with a female harvest rate *h* = 0.055, which corresponds to a starting harvest level of approximately 21 bears/year.

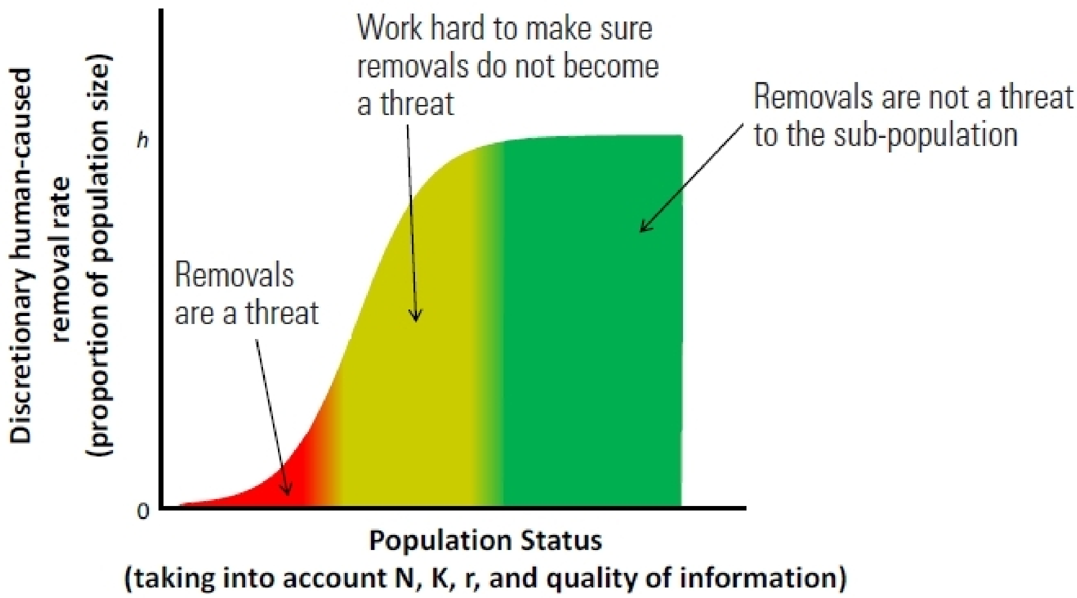

Figure 11 (reproduced with permission from USFWS 2016, Figure 8). Three-level framework for management of polar bear take. In the green zone, the maximum number of annual removals is proportional to the population size, with the proportion (the rate) sensitive to any changes in the intrinsic rate of growth of the population. In the yellow zone, additional efforts are warranted, including consideration of increased monitoring effort, reduction of defense-of-life or other removals, and reduction in subsistence harvest. In the red zone, emergency measures to reduce or minimize all human-caused removals are recommended. In all three zones, the colored region represents the range of removal rates that meet the conservation guidelines of this Plan [USFWS 2016]; the local choice of where to fall within those bounds can take into account the specific context of the subpopulation.

Appendix 1: Example R-language function describing the demographic model for the SH polar bear subpopulation

```
## FUNCTION DESCRIPTION: Population projection for female polar bears using a theta-logistic model of density dependence

## INPUTS:
## tsteps [scalar] : number of annual timesteps (t = 1,2,...k) for population projection; example tsteps = 35
## N.1 [scalar or vector] : female abundance (N) at t = 1, either point estimate or sampling distribution; example N.1 = 1000 or c( 999, 1001, 882,... )
## se.N1 [scalar] : standard error of female abundance at t = 1, only relevant if point estimate of N.1 was specified; example se.N1 = 100
## start.yr [scalar] : starting year of projections, for indexing only; example start.yr = 2016
## NoverK.start [scalar] : population density at t = 1 expressed as abundance (N) divided by carrying capacity (K); example NoverK.start = 0.7
## prop.f.start [scalar] : proportion of females at t = 1; fixed to prop.f.start = 1
## rmax [ scalar or vector ] : maximum intrinsic growth rate at each timestep, either point estimate or sampling distribution; example rmax = 0.10 or c( 0.11, 0.08, 0.9,... )
## se.rmax [ scalar ]: standard error of estimated maximum intrinsic growth rate, only relevant if point estimate or rmax was specified; example se.rmax = 0.02
## mgmt.interval [scalar ] : number of years elapsed between simulated subpopulation assessments and adjustments to harvest level; example mgmt.interval = 5
## N.rsd [ scalar ] : relative standard deviation in estimates of N from simulated subpopulation assessments; example N.rsd = 0.25
## theta [ scalar ] : shape parameter in discrete version of the theta-logistic equation; fixed to theta = 5.045
## H.type [ character = "fixed.level", "fixed.rate", "state1", "none" ] : type of harvest management approach; example H.type = "state1"
## Hf.mat [ matrix with nrow = nsamples and ncol = tsteps-1 ] : female harvest rate or havest level at each timestep
## Hm.mat [ matrix with nrow = nsamples and ncol = tsteps-1 ] : male harvest rate or havest level at each timestep
## K.proxy [vector with length = k] : proxy for carrying capacity at each timestep; fixed to NULL
## nsamples [ scalar ] : number of samples from the distributions of N and r for which to run stochastic projections
## plot.it [ boolean ] : should projections be plotted; example plot.it = TRUE

## OUTPUT: list containing the following objects
## DD.results [ matrix ] : rows correspond to samples of biological parameters, columns are starting N, rmax, maximum net productivity level (MNPL), r at MNPL, and yield at MNPL
## DD.summary [ matrix ] : summary statistics for columns of DD.results
## pop.results [ matrix ] : rows correspond to timesteps, columns are t, N, K, observed growth rate, female harvest, male harvest, female recruitment, male recruitment, female abundance, male abundance
## pop.summary [ matrix ] : rows correspond to timesteps, new columens (wrt pop.results) are stochastic subpopulation outcomes
## DD.mat [ matrix ] : this object describes the density-dependent relationships; rows are increments of N/K, columns are N/K, N, observed growth rate, yield

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## This represents one of several functions, which have variable formatting and organization, that were used for subpopulation projections
## in the following report:

## Regehr, E., M. Dyck, G. Gilbert, S. Iverson, D. Lee, N. Lunn, J. Northrup, A. Penn, M.-C. Richer and G. Szor. 2019.
## Provisional Harvest Risk Assessment for the Southern Hudson Bay Polar Bear Subpopulation. Report to the Southern
## Hudson Bay Polar Bear Subpopulation Advisory Committee, 07 June 2019. Unpublished report. 75 pp.

## DISCLAIMER: The authors provide no guarantee regarding the completeness or functionality of these data and programs,
## and are not responsible for any consequences of their use.

#----
#----
#----
#----

F.theta.proj <- function( tsteps, N.1, se.N1, start.yr, NoverK.start, prop.f.start = 1,
                          rmax, se.rmax, rmax.change = NULL, mgmt.interval = NULL, N.rsd = NULL, theta = 5.045,
                          H.type, Hf.mat, Hm.mat = NULL, Nthr = NULL, Nthr.close = FALSE,
                          K.proxy, nsamples, female.only = TRUE, plot.it = FALSE ) {  #Open over main function


#Load required libraries

#Record functon call
function.call <- match.call()

  #Define range of densities over which to generate objects
  NoverK.t <- seq( from = 0.001, to = 2, by = 0.001 )

  #Standardize proxy for K to equal 1 in the first year of projections
  K.proxy <- K.proxy / K.proxy[[1]]

  #Generate sampling distribution vectors for N and rmax, with expected value in first position
  if( length(rmax) == 1 ) {
  rmax.samplevec <- c(rnorm( n = nsamples , mean = rmax, sd = se.rmax ) )
  rmax.samplevec[[1]] <- rmax }  #the first sample is the specified expected value of the parameter
  if( length(rmax) > 1 ) { rmax.samplevec <- rmax; rmax.samplevec[[1]] <- mean(rmax.samplevec) }
```

```
if( length(N.1) == 1 ) {
N.1.samplevec <- c(rnorm( n = nsamples , mean = N.1, sd = se.N1 ) )
N.1.samplevec[[1]] <- N.1 } #the first sample is the specified expected value of the parameter
if( length(N.1) > 1 ) { N.1.samplevec <- N.1; N.1.samplevec[[1]] <- mean(N.1.samplevec) }



#Initialize arrays to hold results
a1 <- c( "t", "N", "K", "r.obs", "H.f", "H.m", "B.f", "B.m", "N.f", "N.m" )
pop.results <- array( 0, dim = c( tsteps, length(a1), nsamples ) )
dimnames(pop.results) <- list( start.yr:(start.yr+tsteps-1), a1, 1:nsamples )
a1 <- c( "N.1", "rmax", "MNPL", "r.MNPL", "yield.MNPL" )
DD.results <- matrix( NA, nrow = nsamples, ncol = length(a1) )
colnames(DD.results) <- a1

#Create indicator for when to udpate harvest rate under state-dependent management
update.h.ind <- NULL
if( H.type == "state1" ) { update.h.ind <- seq( from = 2, to = tsteps, by = mgmt.interval ) }

#----

#Loop over samples
for( z in 1:nsamples ) {  #Open loop over z over nsamples of the biological parameters

#Select current values of population parameters
N.1 <- N.1.samplevec[[z]]
rmax <- rmax.samplevec[[z]]
if( rmax <= 0 ) { rmax <- 0.0001 }

#Starting sex-specific abundance
N.1.f <- N.1 * prop.f.start
if( N.1.f <= 0 ) { N.1.f <- 1 }
N.1.m <- N.1 * ( 1 - prop.f.start )  #not currently used

#Harvest vector for current sample
Hf <- Hf.mat[ z, ]
ifelse( is.null(Hm.mat), Hm <- rep( 0, length(Hf) ), Hm <- Hm.mat[ z, ] )
```

```
#Vector with time-dependent values of carrying capacity
K <- K.proxy[ z, ] * N.1 / NoverK.start

#Generate density-dependent objects using a theta logistic equation formulated per Morris and Doak (2002) page 102
if( rmax > 0.001 ) {
r.obs <- log( exp( rmax * ( 1 - NoverK.t^theta ) ) ); names(r.obs) <- NoverK.t
N <- K[[1]] * NoverK.t
yield <- N * r.obs
ind1 <- ( which( yield == max(yield) ) )[[1]]
MNPL <- NoverK.t[[ind1]]
yield.MNPL <- yield[[ind1]]
r.MNPL <- r.obs[[ind1]] }

#set all possible growth rates to rmax, if rmax is negative
if( rmax < 0.001 ) {
r.obs <- rep( rmax, length(NoverK.t) )
N <- K[[1]] * NoverK.t
yield <- rep( 1, length(NoverK.t) )
MNPL <- NA
yield.MNPL <- 0
r.MNPL <- rmax }

if( z == 1 ) { DD.mat <- data.frame( NoverK.t, N, r.obs, yield ) }  #save full DD objects for specified parameter values only

#Populate initial values
DD.results[ z, "N.1" ] <- N.1
DD.results[ z, "rmax" ] <- rmax
DD.results[ z, "MNPL" ] <- MNPL
DD.results[ z, "r.MNPL" ] <- r.MNPL
DD.results[ z, "yield.MNPL" ] <- yield.MNPL

#Populate the first row of results matrix
pop.results[ , "t", z ] <- 1:tsteps
pop.results[ 1, "N.f", z ] <- N.1.f
pop.results[ 1, "N.m", z ] <- N.1.m
pop.results[ 1, "N", z ] <- N.1.f + N.1.m
pop.results[ , "K", z ] <- K

#----
```

```
#Loop over years
for( i in 2:(tsteps) ) {  #Open loop over i tsteps

  #Extract values at current timestep
  N.t <- pop.results[ i-1, "N", z ]
  K.t <- pop.results[ i-1, "K", z ]
  N.f.t <- pop.results[ i-1, "N.f", z ]
  N.m.t <- pop.results[ i-1, "N.m", z ]

  #Calculate harvest level to be implemented prior to population growth
  if( H.type == "fixed.level" ) {
     Hf.t <- Hf[[ i-1 ]]
     Hm.t <- Hm[[ i-1 ]] }

  if( H.type == "fixed.rate" ) {
     Hf.t <- Hf[[ i-1 ]] * N.t
     Hm.t <- Hm[[ i-1 ]] * N.t }

  if( H.type == "state1" ) {  #open over state1 for baseline state-dependent management

   #Indicator for whether it is an occasion on which to perform a simulated population assessment and update harvest level
   #under a state-dependent mgmt approach
   h.estimate.ind <- ( i %in% update.h.ind )

      #At the start of projections (i = 2) harvest is based on the expected values of parameter estimates from the case study, rather than
      #on the current sample of parameter estimates
      if( ( h.estimate.ind ) & ( i == 2 ) ) {  #Open over if i = 2

      #Calculate the recommended harvest level based on the specified harvest rate and starting abundance
      N.est.h <- N.1.samplevec[[1]]
      Hf.t <- N.est.h * Hf[[i-1]]
      Hm.t <- N.est.h * Hm[[i-1]]
      }  #Close over if i = 2


   #For occasions i > 2 on which the harvest is updated under a state-dependent approach, calculate harvest level from
   #estimated value of N and the specified harvest rate
   if( ( h.estimate.ind ) & ( i > 2 ) ) { #open over if h.estimate.ind

      a1 <- mean( pop.results[ (i-3):(i-1), "N", z ] )  #mean total abundance for the 3 preceding timesteps
```

```
      N.est.h <- rnorm( n = 1, mean = a1, sd = N.rsd * a1 )  #this assumes that the 50th percentile of estimated N is used
      Hf.t <- N.est.h * Hf[[i-1]]
      Hm.t <- N.est.h * Hm[[i-1]]

      #If there is a harvest closure threshold, evaluate and implement
      if( Nthr.close == TRUE ) { if( N.est.h < Nthr) { Hf.t <- 0; Hm.t <- 0 } }
      }  #close over h.estimate.ind
    }  #close over state1


  #Naming convention
  Hf.t.mod <- Hf.t
  Hm.t.mod <- Hm.t

  #Apply excess male harvest to females
  if( is.null(Hm.mat) == FALSE ) { if( Hm.t > N.m.t ) {  Hm.t.mod <- max( c( N.m.t, 0 ) ); Hf.t.mod <- Hf.t + ( Hm.t - max( c( N.m.t, 0 ) ) ) } }  #not currently
used

  #Don't allow harvest levels to be negative
  Hf.t.mod <- ifelse( Hf.t.mod < 0, 0, Hf.t.mod )
  Hm.t.mod <- ifelse( Hm.t.mod < 0, 0, Hm.t.mod )

  #Population size for females and males after harvest
  N.f.t <- N.f.t - Hf.t.mod
  N.m.t <- N.m.t - Hm.t.mod  #not currently used


  #End projection if population size is below quasi-extinction threshold
  if( ( N.f.t < ( 0.15 * N.1 ) ) | ( N.f.t < 0 ) ) { break }


  #Retrieve current growth rate as a function of post-harvest population density
  ind1 <-  which( abs( ( ( N.f.t + N.m.t ) / K.t ) - NoverK.t ) == min( abs( ( ( N.f.t + N.m.t ) / K.t ) - NoverK.t ) ) )
  r.obs.t <- r.obs[[ ind1 ]]

  #If rmax changes as a function of the ice proxy, use the updated value
  if( is.null( rmax.change ) == FALSE )
  #{ a1 <- rmax * K.proxy[ z, i - 1 ]
  #  r.obs.t <- log( exp( a1* ( 1 - ( ( N.f.t + N.m.t ) / K.t )^theta ) ) ) }
  { a1 <- rmax + i * rmax * rmax.change
```

```
  a1 <- ifelse( a1 <= 0, 0.001, a1 )
  r.obs.t <- log( exp( a1* ( 1 - ( ( N.f.t + N.m.t ) / K.t )^theta ) ) ) }

 #Calculate the change in population size assuming equal sex ratio at birth and no mechanisms of reproduction
 B.f <- ( ( N.f.t + N.m.t ) * r.obs.t )
 if( female.only == TRUE ) { B.m <- 0 }  #no male recruitment if the run is female only

 #Calculate post-harvest and growth population size
 N.f.cur <- N.f.t + B.f
 N.m.cur <- N.m.t + B.m
 N.cur <- N.f.cur + N.m.cur

 #End projection if population size is below quasi-extinction threshold
 if( ( N.cur < ( 0.15 * N.1 ) ) | ( N.f.cur < 0 ) ) { break }


 #Store results
 pop.results[ i, "N", z ] <- N.cur
 pop.results[ i, "N.f", z ] <- N.f.cur
 pop.results[ i, "N.m", z ] <- N.m.cur
 pop.results[ i-1, "r.obs", z ] <- r.obs.t
 pop.results[ i-1, "B.f", z ] <- B.f
 pop.results[ i-1, "B.m", z ] <- B.m
 pop.results[ i-1, "H.f", z ] <- Hf.t.mod
 pop.results[ i-1, "H.m", z ] <- Hm.t.mod

 } #Close loop over tsteps
 } #Close loop over nsamples

#----

#Summarize resuts across samples, if multiple samples of the biological parameters are considerd within F.theta.proj, rather than looping over the function
DD.summary <- NULL
pop.summary <- NULL

if( nsamples > 1 ) {  #Open if over nsamples

#Density-dependent results
temp2 <- t( apply( DD.results, 2, function(x) { xout <- c( mean( x, na.rm = TRUE ), median( x, na.rm = TRUE ),
                              estimate_mode(x), sd( x, na.rm = TRUE ) ); xout } ) )
```

```
temp2 <- cbind( DD.results[ 1, ], temp2 )
temp2 <- round( temp2, digits = 3 )
colnames(temp2) <- c( "actual", "mean", "median", "mode", "sd" )
DD.summary <- temp2

#Remove final, incomplete row of population results
pop.results <- pop.results[ -1 * dim(pop.results)[[1]], , ]

#Calculate mean value across third dimension (i.e. pages)
temp1 <- apply( pop.results, 1:2, mean, na.rm = TRUE )

#Stochastic probabilities of extirpation and male depletion
a1 <- pop.results[ , "N", ]
prob.ext <- apply( a1, 1, function(x) { sum( x == 0 )/ length(x) } )
a1 <- pop.results[ , "N.m", ]
a2 <- matrix( pop.results[ 1, "N", ], nrow = nrow(a1), ncol = ncol(a1), byrow = TRUE )
a3 <- a1 < ( 0.15 * a2 * .5 )
prob.male.dep <- apply( a3, 1, function(x) { sum(x)/ length(x) } )  #not currently used

#Mean proportion female for surviving populations
a1 <- pop.results[ , "N.f", ] / pop.results[ , "N", ]
a1[ is.infinite(a1) ] <- NA
prop.f <- apply( a1, 1, mean, na.rm = TRUE )

#Probability of N > MNPL
a1 <- pop.results[ , "N", ]
a2 <- pop.results[ , "K", ]
a3 <- a1 >= ( 0.7 * a2 )
P.MNPL <- apply( a3, 1, function(x) { sum( x == TRUE )/ length(x) } )

#Probability of N > 0.9N1
a1 <- pop.results[ , "N", ]
a2 <- matrix( pop.results[ 1, "N", ], nrow = nrow(a1), ncol = ncol(a1), byrow = TRUE )
a3 <- a1 >= ( 0.9 * a2 )
P.9N1 <- apply( a3, 1, function(x) { sum( x == TRUE )/ length(x) } )

#Probablity of N > threshold subpopulation size
P.Nthr <- rep( NA, length(P.9N1) )
if( is.null(Nthr) == FALSE ) {
a1 <- pop.results[ , "N", ]
```

```
  a2 <- matrix( pop.results[ 1, "N", ], nrow = nrow(a1), ncol = ncol(a1), byrow = TRUE )
  a3 <- a1 >= Nthr
  P.Nthr <- apply( a3, 1, function(x) { sum( x == TRUE )/ length(x) } ) }

  #Probability that harvest was closed due to threshold rule
  P.Hclose <-  rep( NA, length(P.9N1) )
  if( Nthr.close == TRUE ) {
  a1 <- pop.results[ , "H.f", ]
  P.Hclose <- apply( a1, 1, function(x) { sum( x == 0 )/ length(x) } ) }


  #Consolidate summary data
  pop.summary <- as.data.frame( cbind( temp1[ , c( "N", "K", "H.f", "H.m" ) ], prob.ext, prop.f, prob.male.dep, P.MNPL, P.9N1, P.Nthr, P.Hclose ) )
  }  #Close if over nsamples

  #----

#Consolidate full results list
results.list <- list( DD.results = DD.results, DD.summary = DD.summary, pop.results = pop.results,
                   pop.summary = pop.summary, DD.mat = DD.mat )


#Plot a sample of projections
if( plot.it == TRUE ) {

results <- pop.results
if( nsamples == 1 ) { a1 <- ( results[ , "K", , drop = FALSE ] ) }
if( nsamples > 1 ) { a1 <- ( results[ , "K", ] ) }

temp.K <- t( apply( a1, 1, function(x) { xout <- c( mean(x), quantile( x, probs = c( 0.025, 0.975 ) ) ); xout } ) )
colnames(temp.K)[[1]] <- "mean"

if( nsamples == 1 ) { temp.N <- ( results[ , "N", , drop = FALSE ] ) }
if( nsamples > 1 ) { temp.N <- ( results[ , "N", ] ) }

x <- as.numeric( rownames(temp.N) )
par( mar = c( 7.6, 7.6, 4.6, 2.1 ) )
matplot( x = x, y = temp.N, ylim = c( 0, ( 1.5 * max( temp.K[ , "mean" ] ) ) ),
       xlab = "", ylab = "", cex.lab = 1.8, cex.axis = 2, cex.main = 2.25,
       type = "n", main = "" )
```

```
matplot( x = x, y = temp.N[ , 1:(ifelse( nsamples >= 100, 100, nsamples)) ], type = "l", lty = 1, lwd = 0.25, add = TRUE, col = blackt1 )
lines( x = x, y = apply( temp.N, 1, mean ), type = "l", lwd = 6, lty = 1, col = "black" )  #mean

polygon( c( rev(x), x ), c( rev( temp.K[ , "2.5%" ] ), temp.K[ , "97.5%" ] ), col = grayt1, border = NA)
lines(x = x, y = temp.K[ , "mean" ], lty = 3, lwd = 8, col = grayt2 )  #median

mtext( text = "Year", side = 1, cex = 2, line = 4.5 )
mtext( text = "Female abundance", side = 2, cex = 2, line = 4.5 )            }

#Return results object
return( results.list )

}  #Close over main function



#----
#----
#----
#----


#Utility function to estimate mode of a vector
estimate_mode <- function( x, na.rm = TRUE ) {
  if( na.rm == TRUE ) { x <- x[ is.na(x) == FALSE ] }
  if( na.rm == FALSE ) { if( TRUE %in% is.na(x) ) { stop("\nThere are NA values in the data\n") } }
  d <- density(x)
  d$x[which.max(d$y)]
}


#----
```

<u>**ᐃᓚᒋᐊᕈᑎ ᑐᓂᔭᐅᔪᓄᑦ**</u>
<u>**ᓄᓇᕗᑦᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ**</u>

<u>**ᑖᔅᓱᒧᖓ**</u>

ᑐᑭᓯᒋᐊᕈᑎ: **ᐃᓱᒪᓕᐅᖅᑕᐅᔪᖅ:** **ᐊᑐᓕᕈᔭᐅᔪᖅ: X**

ᐃᓱᒫᓘᑎᒋᔭᖅ: ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᖁᕝᕙᓯᓐᓂᖏᑦ ᐊᒻᒪ ᓇᒧᖓᒃᑕᑦᑕᕐᓂᖏᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᐅᑯᓇᓂ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0 ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐃᖃᓗᓚᓱᐊᕐᓇᐅᑎᓪᓗᒍ.

ᐅᓇ ᐃᓚᒋᐊᕈᑎ ᐃᓗᓕᖅᑲᖅᑐᖅ ᓇᐃᓈᕐᓯᒪᔪᓂᒃ ᑎᑎᕋᖅᓯᒪᔪᓂᒃ ᐱᔭᐅᓂᑯᑦ ᐱᔪᓐᓇᐅᑎᖃᖅᑐᓂᒃ ᐅᖃᐅᓯᐅᖃᑦᑕᕐᓂᑯᓂᒃ ᐃᓱᒪᒋᔭᐅᔪᓂᒃ ᔪᓚᐃ 23-ᒥ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᑎᓪᓗᒋ ᐊᒻᒪᓗ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐃᓱᒪᓕᐊᕆᔭᖏᓐᓂᒃ ᑲᑎᒪᔨᓄᑦ.

<u>***ᐅᖃᖅᑎᒌᓐᓂᕐᒧᑦ***</u>

ᑎᒍᒥᐊᕐᑎᐅᔪᑦ ᐅᑯᓂᖓ ᑲᓇᕐᓇᖓᓂ ᐃᖅᑲᕐᒥᐅᑕᓕᕆᓂᕐᒧᑦ ᖃᐅᔨᒪᔭᑕᕆᔭᐅᔪᑦ ᑲᑎᒪᔨᕋᕈᑦ ᐃᓱᒪᒋᔭᖏᓐᓂᒃ ᐅᖃᕈᓐᓇᖅᑎᑕᐅᓚᐅᕐᒪᑕ ᒪᑐᒧᖓ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ (NAFO) ᐋᖅᑭᒋᐊᕈᑎᖏᓐᓂᒃ ᐃᓚᒃᑲᓂᖓᓂ (SA) 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᓂᒃ (TAC) ᐊᒻᒪᓗ ᐋᖅᑭᒋᐊᕈᑎᒃᓴᓂᒃ 2021 ᐊᒻᒪ 2022-ᒧᑦ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᔪᓚᐃ 23, 2020-ᖑᑎᓪᓗᒍ. ᐅᑯᐊ ᐃᓱᒪᒋᔭᐅᔪᑦ ᓇᐃᓈᓕᖅᑕᐅᓯᒪᔪᑦ ᐅᕙᓂ *ᐅᖃᖅᑎᒌᓐᓂᕐᒧᑦ*ᐅᖃᐅᓯᕐᓂᒃ ᐅᕙᓂ ᖃᓄᐃᓐᓂᐊᕐᓂᕐᒧᑦ ᑎᑎᖃᓂᒃ (BN) ᑐᓂᔭᐅᔪᓂᒃ ᑲᑎᒪᔨᓄᑦ ᐋᒍᓯ 7, 2020-ᒥᑦ, ᐃᓚᖃᖅᖢᓂ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᔾᔪᑎᙵᓂᕐᓂᒃ ᐅᕙᓃᑦᑐᓂᒃ ᐃᓚᒍᑕᖅ 3 ᐅᕙᓂ ᖃᓄᐃᓐᓂᐊᕐᓂᕐᒧᑦ ᑎᑎᖃᓂᒃ. ᑎᒍᒥᐊᕐᑎᐅᔪᑦ ᑐᙵᓱᒃᑎᑕᐅᓚᕐᒥᔪᑦ ᐃᓱᒪᒋᔭᖏᓐᓂᒃ ᑎᑎᕋᕐᑯᔭᐅᓪᓗᑎᒃ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ ᐋᒍᓯ 15, 2020 ᑐᖔᓂᒃ.

ᐃᓱᒪᒋᔭᐅᔪᑦ ᑎᑎᕋᐅᓯᐅᓯᒪᔪᑦ ᐅᑯᓈᙶᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒋᓂᒃ (NFA) ᓇᓗᓇᐃᕐᓯᒍᑎᐅᓚᐅᕐᑐᑦ ᐱᔪᒪᓂᖏᓐᓂᒃ ᐃᓱᒪᕐᑯᔨᓪᓗᑎᒃ 5%-ᒥ ᐅᓄᕐᓯᕚᓪᓕᕐᓗᑎᒃ ᐅᕙᓂ ᐋᖅᑭᒋᐊᕈᑎᖏᓐᓂᒃ ᐃᓚᒃᑲᓂᖓᓂᒃ 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᓂᒃ 2021-ᒧᑦ ᐊᒻᒪ 2022-ᒧᑦ ᐅᖃᖅᖢᑎᒃ ᐅᓄᕐᓯᕚᓪᓕᖅᑎᑦᑎᓂᖅ ᑮᓇᐅᔭᓕᐅᕈᑎᐅᔪᓐᓇᕋᔭᕐᓂᖏᓐᓂᒃ ᓄᓇᕗᒥᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐱᓕᕆᔨᐅᔪᓄᑦ ᐊᒻᒪ ᓄᓇᓕᓐᓄᑦ. ᒪᑯᓄᖓᓕ ᑐᓯᕚᖏᓐᓂᕐᒥᒃ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐅᑯᓄᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A ᐊᒻᒪ 0B, ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒋᑦ ᐃᓱᒪᓕᐅᖃᓚᐅᕐᑐᑦ ᑖᓐᓇ 5% ᐅᓄᕐᓯᒋᐊᕐᓂᐅᔪᖅ ᐊᕕᒃᑕᐅᓂᐊᕐᓗᓂ 50/50 ᓇᓕᒧᑮᓂᒃ; ᐊᒻᒪᓗ ᐃᓱᒪᓕᐅᖃᓪᓗᑎᒃ ᓄᓇᕗᑦ ᐱᑖᕐᓗᑎᒃ ᐊᕕᒍᑎᐅᔪᒥᒃ 100%-ᒥᑦ ᐆᒧᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A-ᒧᑦ ᐊᒻᒪ 90% ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B-ᒧᑦ ᐊᒻᒪ ᐊᒥᐊᒃᑯ 10% ᓄᓇᕕᒃᒧᐊᕐᓗᓂ.

ᐃᓱᒪᒋᔭᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᒃ ᐅᑯᓈᙶᑦ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᒃ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔨᓂᒃ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ (AGC-AFC) ᐃᑲᔪᕐᑐᐃᓱᒪᓚᐅᕐᑐᑦ ᐅᑯᐊ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᖃᐅᔨᓴᖅᑐᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᓐᓂᒃ, ᐃᑲᔪᖅᖢᑎᒃ ᐋᖅᑭᒋᐊᕈᑎᐅᔪᓂᒃ ᒫᓐᓇ ᐃᓚᒃᑲᓂᖓ 0 + 1 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ (ᓯᕐᓗ 36,370 ᑕᓐᓵ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022) ᐋᖅᑭᒃᓯᒪᔪᓐᓇᕐᓂᐊᕐᓗᒋ ᐅᓗᕆᐊᓇᖅᑐᒦᑎᑦᑕᐃᓕᓂᕐᒥᒃ ᐃᖃᓗᓯᖕᓂᕐᒥᒃ ᐊᒻᒪᓗ ᐱᓕᕆᔨᐅᔪᑦ ᐱᓯᒪᔪᓐᓇᐃᓐᓇᕐᑯᓗᒋᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᓂᕐᒧᑦ ᑲᒪᔨᐅᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ (MSC) ᐱᔪᓐᓇᐅᑎᖏᓐᓂᒃ. ᐱᔾᔪᑎᒋᓪᓗᒍ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᑐᓂᐅᖃᖅᑕᐅᓂᖏᑦ ᐅᑯᓄᖓ 0A ᐊᒻᒪ 0B, ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ (AGC-AFC) ᓇᓗᓇᐃᓚᐅᕐᑐᑦ ᑲᔪᓯᔪᒪᓂᕋᖅᖢᑎᒃ ᑐᓂᐅᖃᐃᓂᕐᒥᒃ ᒫᓐᓇ ᐱᔭᐅᔪᓂᒃ (ᐃᓚᒃᑲᓂᖓ 0 18,185 ᑕᓐᓵ), ᐅᖃᐅᓯᖅᖢᑎᒃ 53% ᐅᑯᓈᙶᑦ ᐃᓚᒃᑲᓂᖓ 0 ᑲᑎᑦᑐᑎᒃ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐅᕙᓂ 0A ᐊᒻᒪ 47% ᐅᕙᙵᑦ ᐃᓚᒃᑲᓂᖓ 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐅᕙᓂ 0B. ᐱᔾᔪᑎᒋᓪᓗᒍ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ ᑐᓂᐅᖃᖅᑕᐅᓂᖏᓐᓄᑦ ᐅᑯᑎᑰᓇᖅ ᐅᒥᐊᖃᖅᑐᓄᑦ ᐊᐅᓚᑦᑎᓂᒃᑰᖓᔪᓂᒃ ᐅᑯᐊ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ (AGC-AFC) ᒪᓕᒍᒪᓂᕆᔭᐅᓚᐅᕐᒪᑕ ᒫᓐᓇ ᐊᕕᖃᑎᒌᖕᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᔪᓂᒃ ᑕᒪᐃᓐᒪᑦ ᐱᓕᕆᔪᓄᑦ ᑕᒪᐃᓐᓃᑦᑐᓄᑦ.

<u>***ᐊᑐᓕᖁᔭᐅᔪᖅ***</u>

1) *ᐊᑐᓕᖅᑯᓯᐅᔪᖅ ᐋᖅᑭᑦᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᒃᑲᓐᓂᖅ 0 ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐊᒻᒪᓗ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓇᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 0A ᐊᒻᒪ 0B:*

ᖃᓄᖅᑑᕈᑎᒃᓴᖅ 1 (ᐊᑐᖅᑯᓯᐅᓂᖅᓴᖅ): ᐊᖏᕐᓗᑎᒃ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ (NAFO) ᐊᑐᖅᑯᓯᖏᓐᓂᒃ ᐊᒻᒪ ᒪᓕᑐᐃᓐᓇᕐᓗᑎᒃ ᐊᕐᕌᒍᒧᑦ ᐃᓚᒃᑲᓐᓂᖅ 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ 2021-ᒧᑦ ᐊᒻᒪ 2022-ᒧᑦ ᐅᕙᓂ 18,185 ᑕᓐᔅ. ᒪᓕᑐᐃᓐᓇᕐᓗᑎᒃ ᒫᓐᓇ ᑐᓂᐅᖃᐃᔾᔪᑎ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᓂᒃ ᐅᑯᓄᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A ᐊᒻᒪ 0B ᒫᓂ 9,592.5 ᑕᓐᔅ ᐊᒻᒪ 8,592.5 ᑕᓐᔅ.

ᖃᓄᖅᑑᕈᑎᒃᓴᖅ 2: ᒪᓕᒃᓗᑎᒃ ᐃᓱᒪᒋᔭᐅᔪᓂᒃ ᑎᒍᒥᐊᖅᑎᓂᒃ, ᐊᖏᕐᓕᒥᐊᕐᓗᒍ ᐊᕐᕌᒍᒧᑦ ᐃᓚᒃᑲᓂ 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᒪᓐᓇ 5%-ᒥ (909.25 ᑕᓐᔅ) 2021-ᒧᑦ ᐊᒻᒪ 2022-ᒧᑦ ᒪᐅᖓ 19,094 ᑕᓐᔅ. ᒪᓕᑐᐃᓐᓇᕐᓗᑎᒃ ᒫᓐᓇ ᑐᓂᐅᖃᐃᒍᑎᓂᒃ ᐅᑯᓂᖓ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᐊ ᐊᕕᒃᑐᕐᓯᒪᓂᒃᑯᑦ 0A ᐊᒻᒪ 0B ᐊᒻᒪᓗ ᑲᒪᒋᓗᒍ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓯᒋᐊᕐᓂᖓ (909.25 ᑕᓐᔅ) ᐊᕕᒃᑕᐅᓗᓂ 50/50 ᐅᑯᓄᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A ᐊᒻᒪ 0B ᐃᒪᐃᓕᖓᓕᕐᓗᓂ 10,047.125 ᑕᓐᔅ ᐊᒻᒪ 9,047.125 ᑕᓐᔅ.

2) *ᐊᑐᓕᖅᑯᓯᐅᔪᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᓂᖏᓐᓄᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓗᐊᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᓂᑦ 0A ᐊᒻᒪ 0B*

ᖃᓄᖅᑑᕈᑎᒃᓴᖅ 1 (ᐊᑐᖅᑯᓯᐅᓂᖅᓴᖅ): ᒪᓕᑐᐃᓐᓇᕐᓗᑎᒃ ᒫᓐᓇ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᑐᓂᓯᒍᑎᐅᔪᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓄᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A ᐊᒻᒪ 0B.

ᐃᖃᓗᓚᓯᐊᕐᕕᒋᔭᐅᔪᑦ	**ᐅᒥᐊᕐᔪᐊᑦ/ᐱᔪᒪᓂᖅᑲᖅᑐᑦ**	**ᐃᓕᐅᖅᑲᖅᑕᐅᔪᑦ (ᑕᓐᔅ)**
ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A	ᓄᓇᕗᑦ	9,592.5
	ᑲᑎᑦᑐᒋᑦ 0A ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ	9,592.5
ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B	ᓄᓇᕗᑦ	4,283.25
	ᓄᓇᕕᒃ	449.25
	ᐱᓕᕆᕕᐅᔪᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᔪᓄᑦ ᑎᒍᒥᐊᖅᑏᑦ	2,960
	ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓯᐊᕈᑏᑦ ᐊᑭᑦᑐᖁᐅᑎᓂᖅ	900
	ᑲᑎᑦᑐᒋᑦ 0B ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ	8,592.5

ᖃᓄᖅᑑᕈᑎᒃᓴᖅ 2: ᒪᓕᑐᐃᓐᓇᕐᓗᑎᒃ ᒫᓐᓇ ᐋᖅᑭᒃᑕᐅᓯᒪᔪᓂᒃ ᑐᓂᓯᒍᑎᐅᔪᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓄᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A ᐊᒻᒪ 0B ᐊᒻᒪ ᑲᒪᒋᓗᒍ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᓄᕐᓯᒋᐊᕐᓂᖓ ᐃᓱᒪᓕᐊᕆᔭᐅᔪᓂᒃ 1, ᖃᓄᖅᑑᕈᑎᒃᓴᖅ 2, ᐃᒪᓐᓇ 100% (454.625 ᑕᓐᔅ) ᐅᓄᕐᓯᒋᐊᕐᓂᖅ ᓄᓇᕗᒥ ᐱᓕᕆᐊᓅᖓᓗᓂ ᐅᕙᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A ᐊᒻᒪ 90% (409.163 ᑕᓐᔅ) ᐅᓄᕐᓯᒋᐊᕐᓂᖅ ᐅᓄᖓ ᓄᓇᕗᒥ ᐱᓕᕆᐊᒧᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B ᑖᔅᓱᒪᓗ ᐊᑭᐊᒃᑯᖓ 10% (45.463) ᐅᕙᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B ᓄᓇᕕᒃᒧᐊᖅᑕᐅᓗᓂ.

ᐃᖃᓗᒐᓱᐊᕐᕕᒋᔭᐅᔪᑦ	**ᐅᒥᐊᕐᔪᐊᑦ/ᐱᔪᒪᓂᖃᖅᑐᑦ**	**ᐃᓕᐅᖅᑲᖅᑕᐅᔪᑦ (ᑕᓐᓯ)**
ᐅᐊᓐᓇᖕᒐᑕ ᐱᖕᒐᓐᓇᖕᒐᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᕙᑦᑐᖅᓯᒪᔪᖅ 0A	ᓄᓇᕗᑦ	*10,047.125*
	ᑲᑎᑦᑐᒋᑦ 0A ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ	10,047.125
ᐅᐊᓐᓇᖕᒐᑕ ᐱᖕᒐᓐᓇᖕᒐᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐊᕙᑦᑐᖅᓯᒪᔪᖅ 0B	ᓄᓇᕗᑦ	*4,692.413*
	ᓄᓇᕕᒃ	*494.713*
	ᐱᓕᕆᕙᐅᔪᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᔪᓄᑦ ᑎᒍᒥᐊᖅᑏᑦ	2,960
	ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖃᓗᒐᓱᐊᕈᑏᑦ ᐊᑭᑦᑐᕋᐅᑎᓂᖅ	900
	ᑲᑎᑦᑐᒋᑦ 0B ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ	9,047.125

ᑖᒃᑯᓄᖓ ᐸᕐᓇᑕᐅᓯᒪᔪᖅ: ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ

ᐅᓪᓗᖓ: ᐋᒡᒌᓯ 18, 2020

<u>ᑐᓂᔭᐅᔪᑦ ᐅᕗᖓ</u>

<u>ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᖅᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ</u>

<u>ᐆᒨᖓ</u>

ᑐᑭᓯᒋᐊᕈᑎ: **ᐃᓱᒪᓕᐅᖅᑕᐅᔪᖅ:** **ᐊᑐᓕᕈᔭᐅᔪᖅ: X**

ᐃᓱᒫᓘᑎᒋᔭᖅ: ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᖁᕝᕙᓯᓐᓂᖏᑦ ᐊᒻᒪ ᓇᒧᖓᖃᑦᑕᕐᓂᖏᑦ ᐊᑯᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᐅᑯᓇᓂ ᐊᓪᒍᑐᖅᓯᒪᔪᖅ 0 ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐃᖃᓗᓚᐅᕐᐊᕐᓇᐅᑎᓪᓗᒍ.

ᐊᑯᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ (*Reinhardtius hippoglossoides*)

<u>ᐅᖃᐅᓯᖃᒃᓯᒪᓂᖏᑦ</u>

ᐃᖃᓗᓕᕆᓂᐅᔪᖅ ᐊᑯᑦᑐᑦ ᖃᓕᕋᓕᖏᓐᓂᑦ (GHL) ᐱᑕᖃᖅᑐᖅ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᔾᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ (NAFO) ᐊᓪᒍᑐᖅᓯᒪᔪᖅ (SA) 0 ᐊᓪᒍᑐᖅᓯᒪᔪᖅ ᐅᐊᓐᓇᒧᑦ, ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A (ᓴᓐᓂᕈᑎᐅᑉ ᐃᒪᖓ) aᐊᒻᒪ ᓂᒋᖓ, ᐊᓪᒍᑐᖅᓯᒪᔪᖅ 0B (ᕿᑭᖅᑖᓘᑉ ᕿᑭᖓ), ᓯᓚᑖᓂ ᓄᓇᕗᒻᒧᑦ ᓇᔪᖅᑕᐅᔪᒧᑦ (NSA). ᑮᓇᐅᔭᓕᐅᕋᓱᐊᓂᕐᒧᑦ ᐃᖃᓗᓚᐅᕐᐊᕐᓇᐅᔪᖅ ᐊᑯᑦᑐᑦ ᖃᓕᕋᓕᖏᓐᓄᑦ ᐱᒋᐊᕐᓂᖅᑐᑦ ᔮᓄᐊᕆ 1 ᐊᒻᒪ ᐃᓯᓕᓐᓂᖅᑐᑎᑦ ᑎᓯᐱᕆ 31. ᓄᓇᖑᐊᖅ ᑕᑯᔅᓴᐅᑎᑦᑎᔪᖅ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᔾᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᓪᒍᑐᖅᓯᒪᔪᑦ ᐊᒻᒪ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ ᐊᑦᑐᐊᓂᑖᑦ ᐊᑯᑦᑐᑦ ᖃᓕᕋᓕᖏᓐᓄᑦ ᓇᓂᔭᐅᔪᓐᓇᖅᑐᑦ ᐅᕙᓂ ᐃᓚᒍᑕᖓ 1.

ᐊᖁᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᐃᖃᓗᐃᑦ ᐅᕙᓂ ᐊᓪᒍᑐᖅᓯᒪᔪᖅ0 ᐃᓚᒋᔭᖓ ᑭᓪᓕᖏᓐᓂᑦ ᐅᖓᑕᐅᔾᔨᖃᑦᑕᐅᑎᔪᑦ ᐃᖃᓗᐃᑦ ᑲᑐᑎᔭᐅᔪᑦ ᐅᑯᓂᖓ ᑲᓇᑕ (ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 0A ᐊᒻᒪ 0B) ᐊᒻᒪ ᐊᑯᑭᑐᑦ (ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 1A ᑎᑭᑦᑐᒍ F ᐃᒪᐃᓐᓇᕐᒥᑦ). ᑐᔾᓯᕗᖑᔪᓂᑦ ᑕᒪᒃᑭᓐᓄᒃ ᓄᓇᓕᖅᔪᐊᓐᓄᒃ, ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᔾᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖏᑦ (SC) ᐱᑕᖃᖅᑎᑦᑎᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᒻᒥᑦ ᒪᑭᒪᑎᑕᐅᓂᖏᓐᓄᑦ ᐃᖃᓗᑦᑕᐅᕙᑦᑐᑦ ᖁᕝᕙᓯᓐᓂᖏᑦ. ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᔾᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᐅᕐᓂᖃᖏᑦᑐᑦ ᑖᒃᑯᓄᖓ ᐃᖃᓗᓐᓄᑦ; ᑲᓇᑕ ᐊᒻᒪ ᐊᑯᑭᑦᑐᑦ ᑲᒪᒋᔭᖃᖅᑐᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᐅᓂᕐᒥᑦ ᐃᒪᖏᓐᓂᑦ. ᐊᑯᓂᐅᔪᒪᕆᒻᒥᑦ ᐊᖏᕈᑎᑕᖅᑐᖅ ᐅᑯᓇᖓᑦ ᑲᓇᑕ ᐊᒻᒪ ᐊᑯᑭᑦᑐᑦ ᑖᒃᑯᐊ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ (TAC) ᖁᕝᕙᓯᓐᓂᖏᑦ ᓴᖅᑭᖅᑎᑕᐅᓯᒪᓗᑎᑦ ᐅᑯᓇᖓᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᔾᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖏᑦ ᐊᕕᑦᑕᐅᓗᑎᑦ 50/50 ᑖᒃᑯᓄᖓ ᒪᕐᕈᐃᓐᓄᒃ ᓄᓇᓕᖅᔪᐊᓐᓄᕐ.

ᒫᓐᓇᐅᔪᒥᑦ ᐊᓪᒍᑐᖅᓯᒪᔪᖅ0 ᐊᑯᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ 18,185 ᑕᓐᔅ ᐋᖅᑭᑦᑕᐅᓚᐅᖅᑐᖅ ᒥᓂᔅᑕᒧᑦ ᐅᓇᐅᑎᓪᓗᒍ ᔫᓐ ᓄᐊᕆ 22, 2019 ᐅᑯᓄᖓ 2019 ᐊᒻᒪ 2020 ᐃᖃᓗᓚᐅᕐᐊᕐᓇᐅᔪᓂᑦ ᐊᒻᒪ ᖁᕝᕙᓯᑏᖑᔪᖅ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐱᒋᐊᓚᐅᖅᓯᒪᒻᒪᓂᑦ ᐅᕙᓂ ᐊᓪᒍᑐᖅᓯᒪᔪᖅ0 ᐃᖃᓗᓕᕆᓂᖅ. ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓇᖓᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ ᐃᒪᐃᓕᖓᔪᑦ:

ᐃᖅᑯᒐᓱᐊᕐᕕᒋᔭᐅᔪᑦ	ᐅᒥᐊᕐᔪᐊᑦ/ᐱᔪᒪᓂᖃᖅᑐᑦ	ᐃᓕᐅᖅᑲᖅᑕᐅᔪᑦ (ᑕᓐᓯ)
ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑯᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A	ᓄᓇᕗᑦ	9,592.5
	ᑲᑎᑦᑐᒋᑦ 0A ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ	9,592.5

ᐃᖅᑯᒐᓱᐊᕐᕕᒋᔭᐅᔪᑦ	ᐅᒥᐊᕐᔪᐊᑦ/ᐱᔪᒪᓂᖃᖅᑐᑦ	ᐃᓕᐅᖅᑲᖅᑕᐅᔪᑦ (ᑕᓐᓯ)
ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑯᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B	ᓄᓇᕗᑦ	4,283.25
	ᓄᓇᕕᒃ	449.25
	ᐱᓕᕆᕕᐅᔪᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᔪᓄᑦ ᑎᒍᒥᐊᖅᑏᑦ	2,960
	ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖅᑯᒐᓱᐊᕈᑏᑦ ᐊᑭᑦᑐᕋᐅᑎᓂᖅ	900
	ᑲᑎᑦᑐᒋᑦ 0B ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ	8,592.5

ᐅᓇᐅᑎᓪᓗᒍ 2019, ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᑐᖅᑕᐃᓐᓇᐅᓚᐅᖅᑐᖅ ᑕᒪᒃᑮᓐᓄᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 0A ᐊᒻᒪ 0B.

ᑐᓴᐅᒪᑎᑦᑎᖃᑦᑕᐃᓐᓇᕐᓂᖅ

ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐱᕕᔅᓴᖃᖅᑎᑕᐅᓚᐅᖅᑐᑦ ᓇᒧᓇᐃᖅᓯᓗᑎ ᑕᑯᓐᓇᖅᑕᕆᓐᓂᑦ ᐃᓚᒋᐊᖅᑕᐅᓂᕐᒋᑦ ᐊᒃᑐᖅᓯᒪᔪᖅ0 ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᒻᒪ ᐃᓚᒋᐊᖅᑕᐅᓂᕐᒋᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᔪᑦ 2021 ᐊᒻᒪ 2022 ᐅᖀᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᐅᔪᒥᑦ ᔪᓚᐃ 23, 2020.

ᑕᑯᓐᓇᖅᑕᕆᓐᓂᑦ ᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᐅᑯᓇᖓᑦ ᓄᓇᕗᒻᒥ ᐃᖅᑯᓕᕆᓂᕐᒧᑦ ᖃᑐᔾᔨᖃᑎᒋᑦ (NFA), ᐅᑭᐅᑕᖅᑐᒥᑦ ᑲᑐᔾᔨᖃᑎᒋᕐᒋᑦ (NC) ᐊᒻᒪ ᐅᐃᐅᓱᒃ ᐃᖅᑯᓕᕆᔩᑦ ᓇᓗᓇᐃᖅᓯᔪᐃᓐᓇᐅᓚᐅᖅᑐᑦ ᐱᖕᖢᕈᒪᓪᓗᑎ ᐃᓱᒪᒋᔭᐅᓂᖓ ᖁᕝᕙᕆᐊᖅᑕᐅᓂᖓ ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ, ᐅᑯᓇᖓᑦ ᓄᓇᕗᒻᒥ ᐃᖅᑯᓕᕆᓂᕐᒧᑦ ᖃᑐᔾᔨᖃᑎᒋᑦ ᐊᒻᒪ ᐅᑭᐅᑕᖅᑐᒥᑦ ᑲᑐᔾᔨᖃᑎᒋᕐᒋᑦ ᐊᑐᓕᖁᔨᓪᓗᑎᑦ 5% ᖁᕝᕙᕆᐊᖅᑕᐅᓗᑎ. ᐱᔾᔪᑎᒋᔭᕐᒋᑦ ᖁᕝᕙᕆᐊᖅᑕᐅᖁᔨᓂᕐᒧᑦ ᐅᕙᓐᓛᖅᑐᖅ ᐅᖅᓱᒪᓂᕐᒋᓐᓄᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑯᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔩᕐᒋᑦ ᐅᓂᒃᑳᕐᒋᓐᓂ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ (ᐃᓚᒍᑕᖓ 2):

2020 ᑲᓇᑕᒥ ᑐᔅᓯᕋᐅᑦ:

ᑲᓇᑕ ᑲᔪᕐᒋᖅᓴᐃᑳᓂᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᕿᓂᕐᓗᑎ ᓴᖅᑭᑎᑦᑎᔪᓐᓇᕐᓗᑎ ᐊᑦᑕᓇᕈᓐᓇᕐᓂᕐᒋᓐᓄᑦ–ᑐᓐᖓᓂᖅᖃᖅᑐᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᒪᒥᑦ, ᐱᖃᓯᐅᑎᓪᓗᑎ ᐊᒥᓱᐊᖅᑎᓕᖅᑕᐅᓂᕐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᑦ ᐊᔾᔨᒋᕐᒋᑕᕐᒋᓐᓂ ᐅᑯᓇᖓᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ (ᓲᕐᓗ +/-5-15%) ᐃᖅᑯᐃᑦ ᐊᑯᓂᐅᔪᒧᑦ ᑐᕇᖅᑕᕐᒋᓐᓄᑦ.

<u>ᑭᐅᔾᔪᓰᑦ:</u> ᐊᒥᓲᓂᕐᒋᓐᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᑦᑕᓇᕈᓐᓇᕐᓂᕐᒋᓐᓄᑦ ᐊᔾᔨᒌᕐᒋᑦᑐᓂᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᓂᑦ ᓇᓖᕌᕐᓴᓂᑦ ᐱᔪᓐᓇᕐᒋᑦᑐᖅ ᑖᒃᑯᓄᖓ ᑐᑭᓯᒋᐊᕈᑎᖃᑎᐊᕐᒋᑦᑐᓄᑦ ᐃᖅᑯᓐᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᐊᑐᖅᑐᑎᑦ ᐱᐅᓂᕐᒋᓐᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᕐᒋᑦ ᐊᒥᓱᑦ ᐊᔾᔨᒌᕐᒋᑦᑐᑦ ᐆᒪᔪᐃᑦ ᐊᒻᒪ ᐱᑕᖃᕐᓂᕐᒋᓐᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ. ᐊᔾᔨᒌᕐᒋᓐᓂᕆᔭᖓᓂ ᑎᑭᓯᒪᔪᓂᑦ 5% ᓴᖅᑮᓂᐊᖅᑑᔭᕐᒋᑦᑐᑦ ᐊᑦᑕᓇᕈᑎᐅᔪᓐᓇᖅᑐᑐᓂᑦ ᐃᖅᑯᓐᓄᑦ ᒫᓐᓇᐅᔪᒥᑦ, ᐅᖓᑕᐅᔾᔮᓐᓇᖃᑦᑕᕐᓂᖅ ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᒪᑭᒪᑎᑕᔅᓴᐅᕐᒋᑐᐃᓐᓇᕆᐊᓕᒃ ᕿᑎᕋᖅᑐᒧᑦ ᐊᑯᓂᐅᔪᒧᑦ.

ᑕᑯᓐᓇᖅᑕᐅᔪᑦ ᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᐅᑯᓇᖓᑦ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖅᑯᓐᓂᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᔅᓯᒪᔪᓄᑦ ᐃᖅᑯᒐᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ (AGC-AFC) ᑭᐅᓚᐅᖅᑐᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᖁᕝᕙᕆᐊᖅᑕᐅᓂᖓ, ᓇᒧᓇᐃᖅᓯᓪᓗᑎ ᑖᒃᑯᐊ ᑲᑎᑦᑐᒋᑦ ᐃᖅᑯᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᓂᕐᒋᑦ ᑭᓪᓕᖃᖅᑎᑕᐅᓗᑎ ᐊᕐᒋᓪᓕᒋᐊᖅᑕᐅᔪᓄᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᒧᑦᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᐅᑯᓄᖓ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ

ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖅᑎᒌᖕᒋᑦ SC. ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖅᑲᓘᓂᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᐟᓯᒪᔪᓄᑦ ᐃᖅᑲᓗᒐᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ ᐱᔾᔪᑎᒋᔭᖕᒋᑦ ᐱᖃᓯᐅᔾᔨᔪᑦ ᐃᓱᒫᓘᑕᐅᔪᑦ ᐊᖏᖅᑕᐅᓂᖓ ᑲᑎᑦᑐᒋᑦ ᐃᖅᑲᓪᑕᐅᔪᓐᓇᖅᑐᑦ ᖁᕝᕙᓇᐊᕐᓂᖓ ᐱᐅᖏᑦᑐᒋᑦ ᐊᑦᑐᐃᓂᖃᕈᓐᓇᖅᑐᑦ ᐃᖅᑲᓪᓕᕆᓂᐅᔪᒥᑦ ᓄᑖᒥᑦ ᐱᔭᕋᑖᖅᑐᒥᑦ ᐃᒪᕐᒥ ᐅᒥᐊᖅᑐᖅᑎᐅᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᓇᓗᓇᐃᒃᑯᑕᖅ.

ᐊᑕᖏᖅᑐᑎᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑕᑯᓐᓇᖅᑕᖏᑦ ᑐᓂᔭᐅᔪᑦ ᐅᖀᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᒃᑯᑦ ᓇᓂᔭᐅᔪᓐᓇᖅᑐᑦ ᐃᓚᒍᑕᖓ 3.

ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑐᓂᓯᖁᔭᐅᓯᒪᒻᒥᔪᑦ ᑕᑯᓐᓇᖅᑕᖏᓐᓂᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᑦ ᐅᕝᕙ ᐃᒪᕿᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᑎᑭᓚᐅᖅᑎᓐᓇᒍ ᐋᒻᒌᓯ 15, 2020. ᐃᒪᕿᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐱᑕᖃᖅᑎᑦᑎᓂᐊᖅᑐᑦ ᑲᑎᒪᔨᓄᑦ ᐃᓚᒍᑕᒃᑲᓐᓂᖏᓐᓂᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑕᑯᓐᓇᖅᑕᖏᓐᓂᑦ ᐱᔭᐅᔪᑦ ᐃᓚᒍᑕᒋᔭᐅᓪᓗᑎ ᑖᕝᕙ ᑐᓂᔭᐅᔪᒧᑦ.

ᖃᐅᔨᓴᖅᑎᓂᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ

ᐊᑯᑭᑦᑐᑦ ᖃᓪᓗᓪᓚᖏᑦ ᖃᐅᐅᔨᓴᖅᑕᐅᔪᑦ ᖁᑯᓄᖓ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖅᑎᒌᖕᒋᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐊᕐᕌᒎᓂᒃ ᒪᕐᕉᓐᓂᑕᒫᖅ ᐅᕙᓂ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖅᑎᒌᖕᒋᑦ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ0+1. ᐱᕆᐊᕐᓂᖏᓐᓂ ᔪᓚᐃ 2020, ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖅᑎᒌᖕᒋᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐱᑕᖃᖅᑎᑦᑎᓚᐅᖅᑐᑦ ᐱᓕᕆᕝᕕᒻᒧᑦ ᐅᑯᓂᖓ ᐊᑐᓕᖁᔭᐅᔪᓂᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓪᓗᓪᓚᖏᓐᓄᑦ ᐅᕙᓂ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0+1 (ᐃᒪᐃᓐᓇᕐᒥᑦ) ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐃᖅᑲᓗᒐᓱᐊᕐᓇᐅᔪᓄᑦ:

> *ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐅᖃᐅᔾᔨᕆᐊᖅᑐᑦ ᐊᑦᑎᖅᑐᒥᑦ ᐊᑦᑕᓇᕈᑎᖃᕈᓐᓇᖅᑐᑎᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓪᓗᓪᓚᖏᑦ ᐅᕙᓂ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0+1 ᑐᖖᓃᑦᑐᓂ B_{lim}, ᑲᑎᑦᑐᒋᑦ ᐃᖅᑲᓪᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐊᓯᔾᔨᖅᓯᒪᖏᒃᑯᓂ ᐅᑯᓂᖓ 36,370 ᑕᓐᔅ.*
>
> *ᑕᒪᑐᒪᓂ ᐊᕐᕌᒍᒥ, ᓯᕗᓪᓕᐹᑦᑎᐊᒥᕐ, ᑖᒃᑯᐊ ᐃᖅᑲᓪᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᑦ ᐊᔾᔨᐅᖏᑦᑐᖅ ᐃᖅᑲᓪᑕᐅᔪᓂᑦ ᓄᓇᖅᐸᓯᒻᒥ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 1B-F, ᐃᓛᒃᑯᖅᑐᖅ ᐅᖃᐅᔾᔨᕆᐊᕈᑦ ᐱᑕᖃᖅᑎᑕᐅᔪ.*
>
> *ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐅᖃᖅᓯᒪᒻᒥᔪᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑐᓐᖓᔪᓂᑦ ᐱᑕᖃᖏᑦᑐᖅ ᐱᑕᖃᖅᑎᑦᑎᓗᓂ ᐃᓛᒃᑰᖅᑐᒥᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᒻᒥᑦ ᐃᒪᐃᓐᓇᕐᒥᑦ ᐅᕙᓂᔅ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A +1AB ᐊᒻᒪ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B+1C-F. ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᕆᐊᖅᑐᑦ ᐃᓯᒪᕆᔭᐅᓗᑎᑦ ᓇᒧᖓ ᖃᑦᑕᕐᓂᖕᒋᑦ ᐊᑐᓂ ᓇᔪᖅᑕᐅᔪᓂᑦ ᐊᑎᓪᓕᕆᐊᖅᑎᑦᑕᐃᓕᓂᕐᒧᑦ.*

ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖅᑎᒌᖕᒋᑦ ᖃᐅᔨᓴᖅᑏᑦ ᑲᑎᒪᔨᖕᒋᑦ ᐅᓂᒃᑳᑦ ᐱᖃᓯᐅᑎᓯᒪᔪᑦ ᐅᕙᓂ ᐃᓚᒍᑕᖓ 2.

ᐊᑐᓕᖁᔭᐅᔪᖅ

ᐊᑐᓕᖁᔭᔪᖅ ᐊᑐᐃᓐᓇᐅᖏᑦᑐᖅ ᐅᓇ ᑐᓂᔭᐅᓂᖃᖅᑎᓪᓗᒍ, ᑭᓯᐊᓂ ᐱᑕᖃᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᑲᑎᒪᔨᓄᑦ ᐱᔭᓐᓇᓚᐅᖅᑎᓪᓗᒋᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑲᑎᒪᓂᕆᔭᖕᒋᑦ ᐃᓚᒍᑕᖏᓐᓄᑦ ᐅᕙᓂ ᓇᓗᓇᐃᖅᓯᒍᑎᒥᑦ.

ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖕᒋᑦ ᑐᓯᕋᐅᑦ

ᐱᓕᕆᕝᕕᐅᔪᖅ ᑐᓯᕋᖅᑐᑦ ᑲᑎᒪᔨᓂᑦ:

1) ᐊᑐᓕᖁᔮᐅᔪᖅ ᐋᖅᑭᑦᑕᐅᓂᖏᓐᓄᑦ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ0 ᐊᑯᑭᑦᑐᑦ ᖃᓕᕿᓕᖏᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔫᓇᖅᑐᑦ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐊᒻᒪᓗ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔫᓇᖅᑐᑦ ᐅᑯᓇᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 0A ᐊᒻᒪ 0B
2) ᐊᑐᓕᖁᔮᐅᔪᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᓂᖏᓐᓄᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔫᓇᖅᑐᑦ ᐃᓗᐊᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᓂᑦ 0A ᐊᒻᒪ 0B

ᑖᒃᑯᓄᖓ ᐸᕐᓇᑕᐅᓯᒪᔪᖅ: ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ

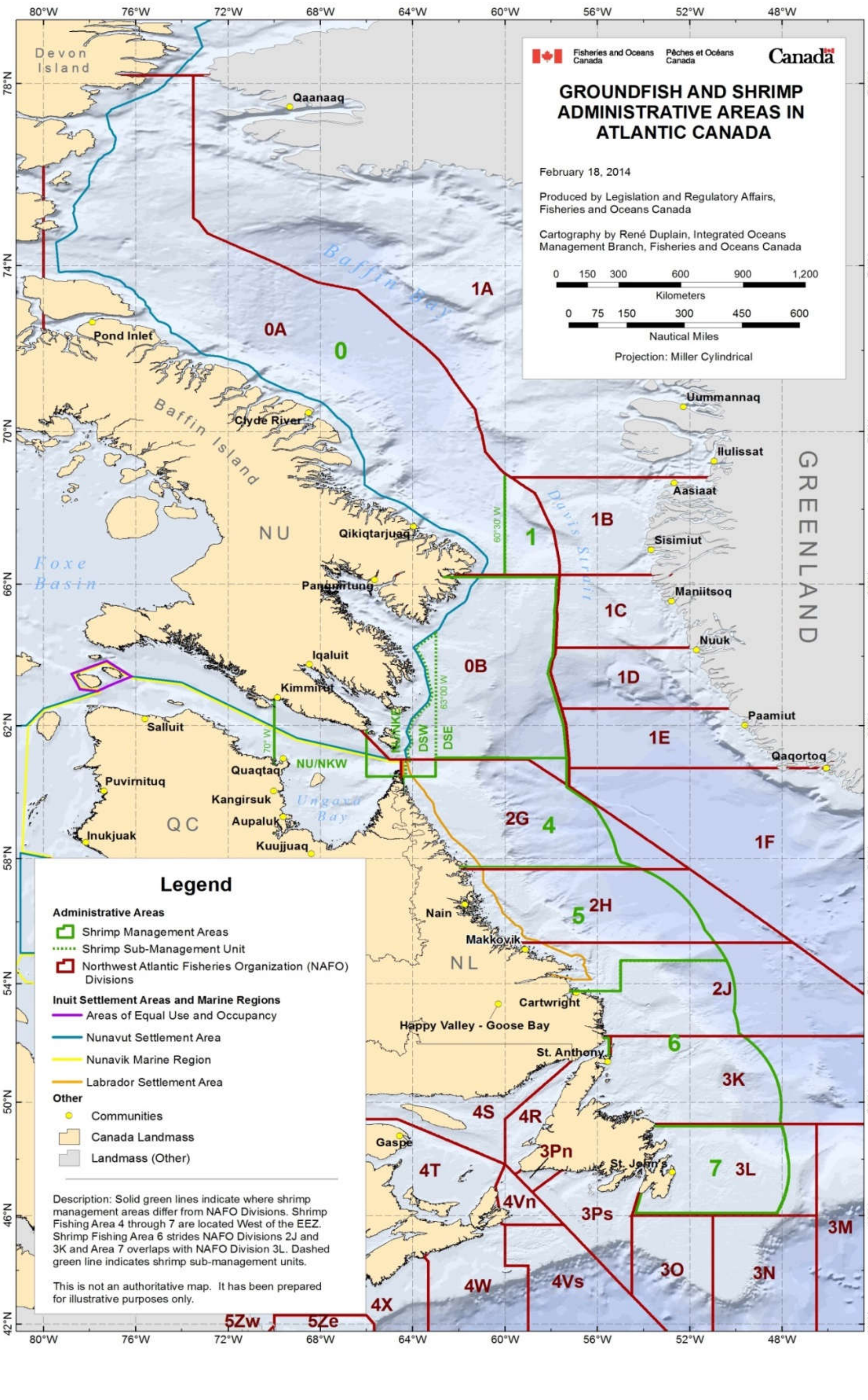
ᐅᓪᓗᖓ: ᐋᒡᒌᓯ 07, 2020

<u>ᐃᓚᒎᑕᖏᑦ</u>

ᐃᓚᒎᑕᖓ 1 – ᓄᓇᖑᐊᖅ ᐃᖅᑲᒥᐅᑕᐃᑦ ᐃᖃᓗᐃᑦ ᐊᒻᒪ ᑯᖑᑉᐸᐃᑦ ᐊᐅᓚᑕᐅᕕᒋᔭᖏᑦ ᐅᕙᓂ ᐊᑦᓛᓐᑎᒃ ᑲᓇᑕ
ᐃᓚᒎᑕᖓ 2 – ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᐱᑦ ᑲᑎᒪᔨᖏᑦ
ᐅᓂᒃᑳᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ
ᐃᓚᒎᑕᖓ 3 – ᑲᑎᒪᓂᖓ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᔪᓚᐃᒥᑦ 23, 2020 EAGSAC ᐅᖅᑲᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᖅ

ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ (NAFO) ᐊᕕᑦᑐᖅᓯᒪᔪᑦ ᐊᐅᐸᖅᑐᑦ

ᐃᓚᒍᑕᖓ 1



ᐊᑯᑭᑦᑐᖅ ᖃᓕᕋᓕᖕᒋᑦ ᐊᕐᕌᒍᖅᓯᒪᔪᒥᑦ 0+1 (ᐃᒪᐃᓐᓇᕐᒥᑦ)

ᐅᖃᐅᓯᕆᔭᕆᐊᒋᑦ ᔫᓂ 2020 ᐅᑭᐅᖓ 2021-2022

> **ᐊᑐᓕᖁᔭᐅᔪᖅ ᐅᑭᐅᖓ 2021 ᐊᒻᒪ 2022**
>
> ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᓯᕆᔭᖅᑐᑦ ᐊᑎᑦᑐᒥᑦ ᐊᑦᑕᓇᕈᑎᖃᕈᓐᓇᖅᑐᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᓐᓄᑦ ᐊᕐᕌᒍᖅᓯᒪᔪᒥᑦ 0 + 1 ᑐᖓᓃᓐᓂᖓᓄᑦ B ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑭᐅᖓ 2021 ᐊᒻᒪ 2022 ᐊᓯᔾᔨᖅᓯᒪᖕᒋᑦᑐᖅ 36 370 ᑕᓐ.
>
> ᑕᒪᑐᒪᓂ ᐊᕐᕌᒍᒥ, ᓯᕗᓪᓕᕝᕕᑎᐊᕐᒥᑦ, ᑖᒃᑯᐊ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᖃᐅᓯᕆᔭᕆᐊᒋᑦ ᐊᔾᔨᐅᖏᑦᑐᖅ ᐃᖃᓗᑦᑕᐅᔾᔪᓂᑦ ᓄᓇᖅᐸᓯᒻᒥ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 1B-F, ᐃᓚᒋᔭᐅᖅᑐᖅ ᐅᖃᐅᓯᕆᔭᕆᐊᒋᑦ ᐱᑕᖃᖅᑎᑕᐅᔪ.
>
> ᖃᐅᔨᓴᖅᑎᓄᑦ ᑐᓐᖓᓂᖃᖕᒋᑦᑐᑦ ᐱᑕᖃᖅᑎᑦᑎᓗᓂ ᐃᓚᒋᔭᐅᖅᑐᒥᑦ ᐅᖃᐅᓯᕆᔭᕆᐊᖃᕐᒥᑦ ᐃᒪᐃᓐᓇᕐᒥᑦ ᐅᑭᐅᖓ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0A+1AB ᐊᒻᒪ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B+1C-F. ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᓯᕆᔭᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᓗᓂ ᑐᓂᐅᖅᑲᖅᑕᐅᓂᖕᒋᓐᓄᑦ ᐊᑐᓂ ᐊᑎᓪᓕᕆᐊᖅᑎᑦᑕᐃᓕᓗᒋᑦ.

ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᐊᕐᕕᑦ

ᑲᓇᑕ ᐊᒻᒪ ᐊᑯᑭᑦᑐᑦ ᐊᖏᖅᓯᓚᐅᖅᑐᑦ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ (TAC) ᐅᓇᐅᓪᓗᓂ 36 370 ᑕᓐ ᐅᑭᐅᖓ 2019 ᐊᒻᒪ 2020. ᑲᓇᑕ ᑐᔪᕋᖅᑐᑦ ᐊᒥᓲᓂᖕᒋᑦ ᖃᓄᐃᓕᖓᓂᖕᒋᑦ ᖃᐅᔨᓴᖅᑕᐅᓯᓇᐊᖅᑲᖅᑐᓂᑦ ᖃᓄᐃᓕᖓᓂᖕᒋᓐᓄᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐱᑕᖃᓇᐊᖅᑲᖅᑎᑕᐅᔪᑦ ᐊᑯᓂᐅᔪᒧᑦ ᓄᙳᐃᓂᕐᒧᑦ ᐊᒻᒪ ᐅᖃᐅᓯᕆᐊᕈ ᐱᑕᖃᖅᑎᑕᐅᔪᖅ ᐊᔾᔨᓐᓂᖃᓇᐊᕐᓗ ᐊᑦᑕᓇᐃᖅᓯᒪᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᓂᖓ.

ᖃᑎᒪᓂᒧᑦ ᐱᓕᕆᐊᕐᕕᑦ	ᖃᓄᐃᓕᖓᓂᖕᒋᑦ	ᐃᖃᐅᓯᖓᐃᑦ/ᐃᓱᒪᒋᔭᐅᓂᖓ
ᐊᑐᓗᓂ ᐊᑦᑕᓇᐃᖅᓯᒪᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᓂᖓ	●	ᐃᖃᓗᖕᒋᑦ ᖁᑦᑎᖕᓯᓐᓂᖅᓴᒥᑦᑐᑦ *Blim*
ᐊᑎᓪᓕᕆᐊᓗᒍ ᐊᑦᑕᓇᕈᓐᓇᖅᑐᓄᑦ ᐊᑦᑕᖅᑕᐅᔪᑦ ᐅᒪᔪᓄᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐊᒻᒪ ᐊᕙᑎᖓᓄᑦ	●	ᐃᖃᓗᖕᓯᐊᓂᐅᔪᑦ ᒪᑐᔭᐅᓯᒪᓕᖅᑐᑦ ᐅᕙᓂ ᐊᕐᕌᒍᖅᓯᒪᓂᖓᑐ ᐊᒻᒪ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 1A. ᓇᓗᓇᐃᖅᓯᒪᔪᓂᑦ ᖃᓄᐃᓕᓯᒋᐊᕈᑎᑦᑲᖕᒋᖅ.

● ᖃᓄᐃᖕᒋᑦᑐᖅ

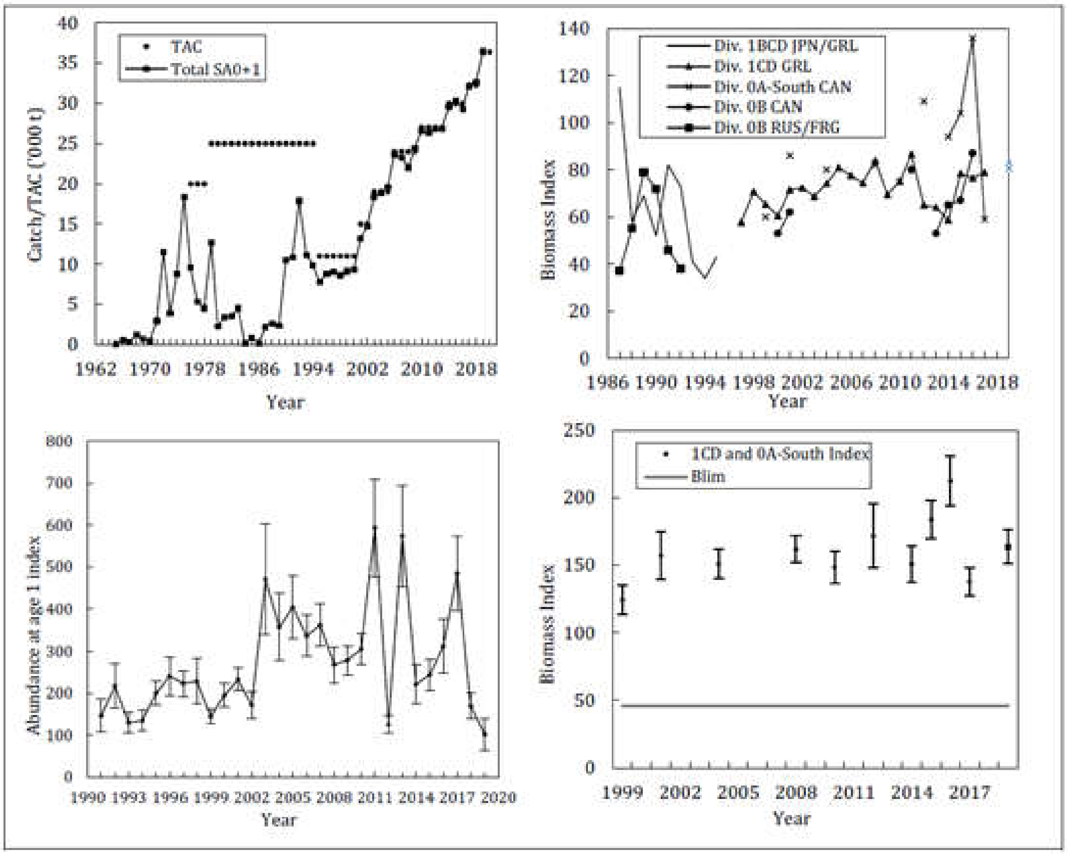
● ᓇᓗᓇᐃᖅᓯᒪᓪᓚᑦᑕᖕᒋᑦᑐᖅ

ᐊᐅᓚᑦᑎᕕᒋᔭᐅᔪᖅ

ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᑦ ᐃᖃᓗᖕᒋᑦ ᐅᕙᓂ ᐊᕐᕌᒍᖅᓯᒪᔪᖅ 0 + 1 (ᐃᒪᐃᓐᓇᕐᒥ) ᐃᓚᒋᔭᖓ ᐊᖏᓂᖅᓴᓄᑦ ᐊᒥᓲᓂᖕᒋᓐᓄᑦ ᓇᒧᖓᖃᑦᑕᕐᓂᖕᒋᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᓂᖅ. ᐱᒋᐊᖅᑐᓂ 2020, ᐃᓚᒋᔭᖅᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᓄᓇᖅᐸᓯᒻᒥ ᐊᐅᓚᑦᑎᕕᒋᔭᐅᔪᑦ.

ᐃᖃᓗᖕᒋᑦ ᖃᓄᐃᓕᖓᓂᖕᒋᑦ

ᑲᑎᓐᖓᓪᓗᑎ 1CD ᐊᒻᒪ 0A-ᓂᒋᖓᓂ ᐊᔾᔨᒋᖕᒋᑦᑐᑦ ᐆᒪᔪᐃᑦ ᖁᑦᑎᖕᓯᓐᓂᖅᓴᐃᓯᒪᔪᑦ *Blim* ᐊᑯᓂᐅᓂᕆᓲᖕᒋᓐᓄᑦ, 1999 ᑎᑭᑦᑐᒍ 2017. ᑲᑎᓐᖓᓪᓗᑎ ᐊᔾᔨᒋᖕᒋᑦᑐᑦ ᐆᒪᔪᐃᑦ ᑎᑎᕋᖅᓯᒪᓂᖕᒋᑦ ᐊᑐᐃᓐᓇᐅᖕᒋᑦᑐᑦ ᐅᑯᖓ 2018, ᐊᒻᒪ 2019 ᐱᑕᖃᕐᓂᖓ ᐊᑐᖅᑕᐅᖕᒋᑦᑐᖅ ᖃᐅᔨᓴᐅᑕᐅᓪᓗᓂ ᐃᖃᓗᖕᒋᑦ ᖃᓄᐃᓕᖓᓂᖕᒋᓐᓄᑦ ᐱᔪᑎᒋᓪᓗᒍ ᐊᔾᔨᐸᓗᐊᓂᕆᓲᖓᓄᑦ ᓯᕗᓂᐊᒍ ᐊᑯᓂᐅᓂᕆᓯᒪᔫᑦ ᐊᐱᖅᑯᑕᓴᐅᔪᑦ. ᑎᑎᕋᖅᓯᒪᓂᖕᒋᑦ ᐊᕐᕌᒍᓂ 1 ᒪᕐᕈᐊᓂ ᐊᕐᕌᒍᓕᖅᑐᖅᑐᓂᒃ ᐊᑎᓂᖅᓴᓪᓗᐊᑲᓪᓚᐅᔪᖅ ᓴᓂᐊᓂ ᐊᕐᕌᒍᖃᑦᑕᖅᓯᒪᔪᓂᑦ, ᖁᑦᑎᖕᓯᑦᑐᓯᒪᔪᑦ ᐱᑕᖃᓂᖕᒋᑦ ᐅᕙᓂ 2011, 2013 ᐊᒻᒪ 2017. ᓇᓗᓇᐃᖅᓯᒪᖕᒋᑦᑐᖅ ᐊᕐᕌᒍᓂ 1 ᐱᑕᖃᕐᓂᖕᒋᓐᓄᑦ ᑎᑎᕋᖅᓯᒪᓂᖕᒋᑦ ᑭᒡᒐᖅᑐᐃᔪᖅ ᓯᕗᓂᖓᒥ ᐱᔪᓂᐊᖅᑐᓂᑦ ᑭᓯᐊᓂ ᐃᓱᒪᒋᔭᐅᔪᖅ ᐃᓚᓯᓪᓗᓂ ᐃᓱᒪᒋᔭᖃᓂᕐᒧᑦ ᐊᑕᖕᒋᖅᑐᓂᑦ ᐃᖃᓗᖕᒋᑦ ᖃᓄᐃᓕᖓᓕᕐᓂᖕᒋᓐᓄᑦ.



ᓇᓗᓇᐃᕐᕕᖓᓂ ᓇᑭᙳᕐᓂᖓᓂ

ᐊᕐᕌᒍᖏᓐᓄᑦ ᑐᓐᖓᓕᐅᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᐊᑐᐃᓐᓇᐅᓪᓚᐅᖅᑎᑦᑐᑦ ᒥᓵᓄᑦᑕᐅᓗᑎ ᐊᑦᑕᓇᐃᖅᓯᒪᓂᕐᒧᑦ ᖃᐅᔨᒋᐊᕐᕕᓪᓗᐊᑕᖅᑎᑦ. 2014−ᒥᑦ ᓯᕗᓂᐊᒍᑦ ᑭᖑᕐᕕᐅᑎᕐᑲᓪᓚᐅᖅᑐᑦ ᐅᕝᕙᓘ *Blim* ᐋᖅᑭᑦᑕᐅᓪᓚᐅᖅᑐᑦ 30% ᐱᔭᐅᓃᓗᐊᑕᖓ ᑲᑎᙵᓕᖕᒍᔪᓄᑦ 0A-ᓂᑎᖓ + 1CD ᖃᐅᔨᓴᕐᓂᑦ ᐊᒥᓱᓂᑦ ᐆᒪᔪᓂᑦ ᐊᔾᔨᒌᖏᑦᑐᓂᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᕐᕌᒍᓄᑦ 1999 ᑎᑭᓪᓗᒍ 2012.

ᖃᐅᔮᖅᑕᐅᓂᖓ

ᖃᐅᔨᓴᖅᑕᐅᓂᖓ ᐱᐅᓂᖓᓄᑦᑐᓴᕐᕕᖃᖅᑐᑎᑦ ᖃᐅᔨᓴᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᐅᔪᓂᑦ (ᑲᑎᑐᑎᑦ ᐊᒥᓱᑦ ᐊᔾᔨᒌᖏᑦᑐᑦ ᐆᒪᔪᐃᑦ ᐊᒻᒪ ᐱᑕᖃᕐᓂᖏᓐᓄᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ. ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᕐᕌᒍᓕᒫᑦ 1 ᐃᖅᑲᓗᐃᑦ, ᐊᒻᒪ ᐊᑯᓂᐅᓂᖓᑕᖅᑕᖏᑦ ᓇᓪᓕᐅᖃᑦᑕᕐᓂᖏᓐᓂᒃ ᐊᒻᒪ ᐃᖅᑲᓪᓕᕆᓂᕐᒧᑦ ᐊᑯᓂᐅᓂᖓᑕᖅᑕᖏᑦ.

ᑭᖑᓪᓕᕐᒥᑦ ᖃᐅᔨᓴᕐᓂᐅᓛᖅᑐᖅ ᓂᕆᐅᒋᔭᐅᔪᖅ 2022.

ᐃᓄᖕᒧᑦ ᐊᑐᖅᑕᐅᔪᑦ

ᐃᖅᑲᓪᓕᕆᓂᐅᓕᖅᑐᑦ ᐊᑐᐊᓂᓛᑦ ᑐᑭᖅᑲᖅᑕᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᑎᓪᓗᒋᑦ. ᐊᓯᖏᑦ ᓇᑭᖖᒑᕐᕕᖏᑦ (ᒍᕐᓗ. ᓯᑯᓇᖅᑐᑦ, ᐅᒥᐊᕐᔪᐊᓕᕆᓂᖅ, ᐅᖅᓱᐊᓗᒃᓯᐅᕐᓂᖅ) ᑎᑎᕋᖅᑕᐅᓯᒪᖏᑦᑐᑦ.

ᐆᒪᔪᓂᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᒻᒪ ᐊᕙᓗᓂᑦ ᖃᓄᐃᓕᖅᑲᖅᑕᐅᑎᓂᖏᑦ

ᓇᓗᓇᐃᖅᓯᒪᔪᓂᑦ ᖃᐅᔨᓴᕐᓂᐅᔪᓂᑦ ᕿᒥᕐᕈᔭᐅᔪᖅᑲᐅᖏᑦᑐᖅ ᑕᕝᕙ ᖃᐅᔨᓴᕐᓂᐅᔪᒥᑦ

ᐃᖃᓗᒐᓱᐊᕐᓂᖅ

ᐃᖃᓗᒃᑕᐅᕙᓚᐅᖅᑐᑦ ᑎᑎᕋᖅᑕᐅᒋᐊᖏᓚᐅᖅᑐᑦ 1964. ᐃᖃᓗᒃᑕᐅᔪᑦ ᑰᖅᑯᓇᐊᓚᐅᖅᑐᑦ ᐱᒋᐊᖅᑐᓂ 1989 ᑎᑭᑦᑐᒍ 1992 ᐱᔪᓐᓂᕐᓗᒍ ᓄᑖᒍᑦ ᑲᓪᓚᒍᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒥᑦ 0B ᐃᓚᐅᖃᑕᐅᓪᓗᑎ ᑲᓇᑕ, ᓄᐊᕙᐃ, ᐅᓖᓴᑯᑦ ᐊᒻᒪ ᕘᐃᕈ ᕿᑭᖅᑖᑦ ᐊᒻᒪ ᐊᓯᙱᓕᒋᐊᖃᑕᐅᓪᓗᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 1CD ᐃᖃᓗᓕᕆᓂᐅᔪᖅ ᐃᓚᐅᖃᑕᐅᓪᓗᑎ ᔾᕋᓃᓚᑦᑯᑦ, ᓄᐊᕙᐃ ᐊᒻᒪ ᕘᐃᕈ ᕿᑭᖅᑖᑦ. ᐃᖃᓗᒃᑕᐅᔪᑦ ᐊᕿᙱᓕᒋᐊᓚᐅᖅᑐᑦ ᐱᒋᐊᖅᑐᓂ 1992 ᑎᑭᑦᑐᒍ 1995 ᐱᔪᓐᓂᒍᓗᐊᖅᑐᒍ ᐊᕿᙱᓕᒋᐊᕐᓂᕆᓇᓄᑦ ᐱᓇᓱᐊᖅᑕᐅᔪᓄᑦ ᑲᓇᑕᒥᐅᑕᐅᕆᑦᑐᓄᑦ ᐅᒥᐊᕐᔪᐊᓄᑦ ᐅᕙᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B. 1995–ᒥᑦ ᐃᖃᓗᒃᑕᐅᕙᒃᑕᖅᑐᑦ ᖃᓂᒋᔭᕆᐅᓃᕐᓯᒪᔪᑦ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᒻᒪ ᑰᖅᑯᓇᐊᖅᐸᓕᐊᓪᓗᑎ ᑰᖅᑯᓇᐊᕐᓂᐅᔪᓂᑦ ᐅᕙᓂ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ, ᐃᖃᓗᒃᑕᐅᓯᒪᔪᑦ ᑎᑭᓯᒪᔪᑦ ᑰᖅᑯᓯᑦᑐᒥᑦ 36 446 ᑕᓐ ᐊᕐᕌᒍᒐᓂ 2019.

ᐃᖃᓗᒃᑕᐅᕋᑖᖅᓯᒪᔪᑦ ᐊᒻᒪ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᖅs ('000 ᑕᓐ)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ	27	27	27	30	30	30	32.3	32.3	36.4	36.4
ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0	13.2	13.3	13.4	14.9	15.4	14.1	15.9	16.4	18.4	
ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 1	13.1	13.5	13.5	14.7	14.9	15.2	16.2	16.2	18.0	
ᑲᑎᑦᑐᒥᑦ STACFIS[1]	26.3	26.8	26.9	29.6	30.3	29.3	32.1	32.6	36.4	

[1]ᑐᙵᕕᒋᓪᓗᒋᑦ STATLANT, ᑐᑭᓯᒋᐊᕈᑏᑦ ᐅᕙᙵᑦ ᑲᓇᑕ ᐊᒻᒪ ᐊᑯᑭᑐᓂᑦ ᐱᔪᓇᐅᑎᓕᕐᓂᑦ ᐱᖃᓯᐅᔾᔨᕙᓚᐅᕐᒪᑕ ᐊᕕᑦᑐᖅᓯᒪᔪᓂᑦ 1A-F ᐊᒻᒪ 0B ᓄᓇᖅᐸᓯᒥ ᐃᖃᓗᒃᑕᐅᔪᑦ.

ᐊᑦᑐᖅᑕᐅᔪᑦ ᐃᖃᓗᓕᕆᓂᕐᒥᑦ ᐊᕙᑎᖓᓄᑦ

ᓇᓗᓇᐃᖅᓯᒪᔪᓂᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᐊᑐᐃᓐᓇᖅᑕᒃᑲᓐᖏᑦᑐᖅ. ᐊᑦᑐᖅᑕᒃᑕᒐᔪᑦᑐᑦ ᐃᖅᑲᖓᒍᑦ ᑲᓪᓗᑎᑦ ᐃᖃᓗᒐᓱᐊᕈᑎᓄᑦ ᐊᕙᑎᖓ ᐃᓱᒪᒋᔭᐅᔭᕆᐊᓕᒃ.

ᑐᙵᕕᖃᖅᑎᑦ ᐅᖃᐅᔾᔨᒋᐊᓂᕐᒧᑦ

ᐊᒥᒨᓂᖅᑎᖏᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᑕᓇᕈᓐᓇᕐᓂᖅᑎᖏᓄᑦ ᐊᓪᓚᑏᖅᑎᑦᑐᓂᑦ ᐃᖃᓗᒃᑕᐅᔪᓂᑦ ᓇᓖᕋᕐᓴᓂᑦ ᑕᐃᒪᑦᓴᐅᖅᑎᑦᑐᑦ ᑖᒃᑯᓄᖓ ᐃᖃᓗᓄᑦ; ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᐊᒥᒨᓂᖅᑎᖏᓄᑦ ᖃᐅᔨᓴᕋᓴᐅᖅᑎᑦᑐᑦ ᒪᑭᒪᑎᑦᓴᐅᓂᖅᑎᖏᓄᑦ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ. ᐊᒥᓱᓂᑦ ᐊᔾᔨᒌᖅᑎᑦᑐᓂ ᐆᒪᔪᓂᑦ ᑎᑎᕋᖅᓯᒪᓂᖅᑎᑦ ᐊᑐᐃᓐᓇᖅᑕᒃᑲᓚᐅᖅᑎᑦᑐᖅ 2018-ᒧᑦ ᐊᒻᒪ ᓇᓗᓇᕈᑎᑖᖅᑐᓂ ᐊᔾᔨᒌᙵᐃᖅᑎᑕᐅᓂᖅᑎᖏᓄᑦ 2019 ᒥᓯᐅᓴᖅᑕᐅᔪᓂᑦ, ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ICES ᐃᖃᓗᒃᑕᐅᔪᓂᑦ ᐊᐅᓚᕿᓂᕐᒧᑦ ᒪᓕᒐᖅ 3.2 ᑐᑭᓯᒋᐊᕈᑎᓄᑦ ᑮᓕᖃᖅᑎᑕᐅᔪᑦ ᐃᖃᓗᐃᑦ ᐊᑐᖅᑕᐅᓚᐅᖅᑎᑦᑐᖅ. ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ 2020–ᒥ ᑐᙵᕕᓂᖃᓚᐅᖅᑐᖅ ᐱᐅᓂᖅᑎᖏᓄᑦ ᕿᒥᕐᕈᓂᕐᒥᑦ ᐊᑐᐃᓐᓇᐅᔪᓂᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ.

ᐊᔾᔨᐅᖅᑎᑦᑐᑦ ᐅᖃᐅᓯᕐᓭᑦ

ᖃᐅᔨᓴᓂᕐᒧᑦ ᐅᒥᐊᕐᔪᐊᖅ ᐊᑐᖅᑕᐅᓯᒪᔪᖅ ᖃᐅᔨᓴᖅᑐᑎᑦ 0A-ᓂᒋᕐᒐ ᐊᒻᒪ 1CD ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᐱᒋᐊᖅᑐᓂ 1997 ᑎᑭᑦᑐᒍ 2017 ᓄᖅᑲᖅᑎᑕᐅᓚᐅᖅᑐᖅ ᐊᒻᒪ ᖃᐅᔨᓴᕐᓂᖃᓚᐅᖅᑎᑦᑐᑦ 2018–ᒥᑦ. ᖃᐅᔨᓴᕐᓂᖃᓚᐅᖅᑐᑦ 2019-ᒥᑦ ᑮᓇᐅᔭᓕᐅᕋᓯᐊᓂᕐᒧᑦ ᐅᒥᐊᕐᔪᐊᒧᑦ, ᑭᓯᐊᓂᓕ, ᑐᑭᓯᒋᐊᕈᑏᑦ ᕿᒥᕐᕈᔭᐅᔪᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᐊᓯᐅᔨᓂᕐᒐ ᐅᒥᐊᕐᔪᐊᖅ ᐊᑐᐃᓂᖃᓚᐅᖅᑐᖅ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑎᑕᐅᔪᓂᑦ ᐃᑎᓂᓕᓐᓂᑦ > 700 ᒦᑕᐃᑦ, ᐊᑯᑭᑐᑦ ᖃᓕᕋᓕᕐᒥᑦ ᖃᐅᔨᒪᔭᐅᔪᓂᑦ ᐊᒥᒫᒋᐊᕐᒥᓄᑦ. ᐃᓚᒋᐊᕐᓗᒍ ᖃᐅᔨᓴᖅᑕᐅᓴᕋᐃᓐᓂᖅᓴᕐᓂ 0A-ᓂᒋᕐᒐ ᖃᐅᔨᓴᖅᑕᐅᔪᖅ 2019 ᓴᖅᑭᖅᓯᒪᑐᐃᓐᓇᕆᐊᒃᑲᖅᑐᑦ ᖃᐅᔨᒪᔭᐅᕐᒥᑦᑐᓂᑦ ᐃᓚᖓᓂ ᐃᖃᓗᐃᑦ ᐅᕐᕈᑖᓃᒃᑕᖅᑐᑦ ᖃᐅᔨᓴᕐᕕᐅᔪᒥᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᐊᔾᔨᒌᙵᐃᖅᑎᑕᐅᓂᕐᒥᑦ ᐊᑯᓐᓂᕐᓂᖓᓂ 2019 ᐊᒻᒪ ᖃᐅᔨᓴᕐᓂᐅᕙᒃᑕᖅᓯᒪᔪᓂᑦ ᐊᐱᖅᑯᑎᓯᐅᔾᔫᖅᑐᑦ ᐊᒻᒪ ᖃᓄᐃᓐᓂᕆᔭᕐᒥᑦ ᐊᑐᓕᖁᔭᐅᓚᐅᕐᒥᑦᑐᑦ ᐊᑐᖅᑕᐅᓗᑎ 2020 ᖃᐅᔨᓴᕐᓂᕐᒧᑦ.

ᖃᐅᔨᓴᕐᓂᐅᔪᑦ ᐱᑕᖃᖅᑎᕆᕙᔪᓚᐅᖅᑎᓪᓗᒋᑦ ᐊᕐᕌᒍᓖᑦ 1 ᐱᑕᖃᕐᓂᕐᒥᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐊᑐᖅᑕᐅᓯᒪᓪᓗᑎ ᐅᒥᐊᕐᔪᐊᓄᑦ ᐊᓯᔾᔨᖅᑐᓄᑦ 2018 ᐊᒻᒪ 2019, ᖃᓄᐃᓐᓂᕆᔭᕐᒥᑦ ᐃᓱᒪᒋᔭᐅᔪᑦ ᐊᔾᔨᒌᙵᐃᖅᑎᕐᒐᓴᐅᓪᓗᑎ ᑕᐃᒫᒃᑯᓄᖓ ᐊᕐᕌᒍᓄᑦ ᖃᐅᔨᓴᕐᓂᐅᕙᒃᑕᖅᓯᒪᔪᓄᑦ.

ᑐᑭᓯᒋᐊᕈᑎᖃᕕᐅᔪᑦ

SCR 20/06, 07, 12, 15, 18, 19, 32, 34, 37; SCS ᑎᑎᕋᖅᓯᒪᔪᑦ 20/10, 12, 13)

2020 ᑲᓇᑕᒥ ᑐᓴᕋᐅᑦ:

ᑲᓇᑕ ᑲᔪᓯᑦᑎᓴᐃᑲᓐᓂᖅᑐᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔨᑦ ᕿᓂᕐᓗᒋ ᓴᖅᑭᑎᖦᑎᔪᓐᓇᕐᓗᒋ ᐊᑕᓇᕈᓐᓇᕐᓂᕐᒥᓄᑦ-ᑐᙵᕕᓂᖃᖅᑐᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᑦ, ᐱᖃᓯᐅᑎᓪᓗᑎ ᐊᒥᓱᐊᖅᑎᓕᖅᑕᐅᓂᕐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᑦ ᐊᔾᔨᒋᙱᑦᑎᕆᓂ ᐅᑯᓇᙵᑦ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ (ᓱᕐᓗ +/-5-15%) ᐃᖃᓗᐃᑦ ᐊᑯᓂᐅᔪᒧᑦ ᑐᕌᖅᑕᕆᓇᓄᑦ.

<u>ᑭᐅᔾᔪᑏᑦ</u>: ᐊᒥᒨᓂᕆᓇᓄᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᑕᓇᕈᓐᓇᕐᓂᕆᓇᓄᑦ ᐊᔾᔨᒌᙱᑦᑐᓂᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᓂᑦ ᓇᓖᕋᕐᓴᓂᑦ ᐱᔪᓐᓇᕐᒪᑦ ᑖᒃᑯᓄᖓ ᑐᑭᓯᒋᐊᕈᑎᒃᑲᓐᓂᐊᕐᒥᑦᑐᓄᑦ ᐃᖃᓗᓐᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᑦ ᐊᑐᖅᑐᑎᑦ ᐱᐅᓂᕐᒥᓄᑦ ᖃᐅᔨᓴᖅᑕᐅᓂᕐᒥᑦ ᐊᒥᓱᑦ ᐊᔾᔨᒌᙱᑦᑐᑦ ᐆᒪᔪᐃᑦ ᐊᒻᒪ ᐱᑕᖃᕐᓂᕐᒥᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ. ᐊᔾᔨᒌᙱᓐᓂᕆᓂᖅᑐᓂ ᑎᑭᓯᒪᔪᓂᑦ 5% ᓴᖅᑮᓂᐊᖅᑑᔭᕐᒥᑦ ᐊᑕᓇᕈᑎᐅᔪᓐᓇᖅᑐᑐᓂᑦ ᐃᖃᓗᓐᓄᑦ ᒦᓇᐅᔪᒥᑦ, ᐅᕐᕈᑕᐅᔨᓐᓇᖅᑕᖅᑐᓂᖅ ᑲᑎᑦᑐᒥᑦ ᐃᖃᓗᒃᑕᐅᔪᓐᓇᖅᑐᑦ ᒪᑭᒪᑎᑦᓴᐅᕐᒥᑐᐃᓐᓇᕆᐊᓕᒃ ᕿᑎᖅᑐᒧᑦ ᐊᑯᓂᐅᔪᒧᑦ.

2020 ᑎᐊᓪᓛᒃ (ᐊᑯᑭᑦᑐᖅ) ᑐᓴᕋᐅᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᒻᒥᑦ:

ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᑐᓴᕋᕕᐅᔪᑦ ᐃᓱᒪᒋᔭᖃᕐᓗᒋ ᐱᑕᖃᖅᑎᑕᐅᔪᓐᓇᓗᐃᓐᓇᕆᐊᖃᕐᓂᕐᒪᓄᑦ ᐃᓛᒃᑯᖅᑐᒥᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᒻᒥᑦ ᐅᑯᓄᖓ 1 B-1 F ᓄᓇᖅᐸᓯᒪᒥ.

<u>ᑭᐅᔾᔪᑏᑦ</u>: ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐱᓕᐅᖅᑐᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᓐᓂᑦ ᓂᕈᐊᓪᓚᑖᓕᖅᑕᐅᓐᓗᑎ ᖃᐅᔨᓴᓂᕐᒥᑦ, ᖁᐱᕐᕈᓂᑦ ᖃᐅᔨᓴᕐᓂᖅ ᐊᒻᒪ ᐃᖃᓗᑦᑕᐅᖃᕐᑕᖅᓯᒪᔪᑦᑲᐃᑦ ᑕᖅᑭᖏᑎᒍᑦ ᑲᖏᖅᑐᖏᓐᓂ ᐃᓗᐊᓂ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 1B-F. ᐃᒪᐃᓐᓇᕐᒥᑦ ᐃᖏᕋᓂᕆᔪᑦᑕᖏᑦ ᑭᓐᓕᖃᖅᑎᑕᐅᔫᖅᑐᑦ ᐊᒻᒪ ᐊᑦᑐᐊᓂᖃᖅᑐᑎᑦ ᑎᐊᓪᓛᒃ ᐃᒪᖓᓄᑦ. ᐃᓕᕆᐊᕐᓗᒍ, ᑖᒃᑯᐊ ᓄᓇᖅᐸᓯᒪᒥ ᑲᖏᖅᑐᐃᑦ ᐅᑎᖅᑕᖃᑦᑕᖅᑐᓂᑦ ᐃᖃᓗᒃᐱᐅᔪᑦ ᐃᖃᓗᑦᑕᐅᔪᑦ ᐊᖏᓂᖃᖅᑐᑎᑦ 1 ᑎᑭᑦᑐᒍ 2 ᖁᓕᑦ ᐊᕋᒍᐃᑦ, ᓇᓗᓇᐃᖅᓯᔪᑦ ᐊᑦᑎᓕᓕᕆᐊᕐᓂᖏᓐᓄᑦ ᐃᒪᐃᓐᓇᕐᒥᑦ ᐱᔭᐅᔪᓐᓂᑦ ᐃᖅᑲᖓᓂ, ᐅᐊᔫᓐᓂᑦ ᐃᖅᑲᒥᐅᑕᐅᓂᖕᓂᑦ ᐃᖃᓗᐃᑦ. ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᖅᑐᑦ ᐅᖃᐅᔾᔨᕆᐊᕈᒻᒥᑦ ᐱᑕᖃᖅᑎᑦᑎᔪᓐᓇᖅᑐᑦ ᑖᒃᑯᓄᖓ ᓄᓇᖅᐸᓯᒪᒥ ᐃᖃᓗᓐᓄᑦ ᐃᓚᒍᑕᖏᓐᓄᑦ, ᐃᓛᒃᑯᖓᔪᖅ ᐊᖏᓂᖅᓴᒥᑦ ᐊᒃᑐᖅᓯᒪᔪᑦ 0 ᐊᒻᒪ 1 ᐃᒪᐃᓐᓇᕐᒥᑦ ᐃᖃᓗᖏᓐᓂ ᐃᓚᒍᑕᖏᑦ. ᐅᖃᐅᔾᔨᕆᐊᕈᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᓄᑦ 1B-1F ᓄᓇᖅᐸᓯᒪᒥ ᑐᓂᔭᐅᔪᖅ ᐅᕙᓐᓂᑦ ᐃᓚᖓ VII.2a.

ᐃᓚᒍᑕᖓ 3

ᑲᓇᓐᓇᖓᓂ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ (EAGSAC) ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᖓ ᕿᓂᖅᑐᑎᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑕᑯᓐᓇᖅᑕᖏᓐᓂᑦ ᐱᔾᔪᑎᖃᖅᑐᓂᑦ ᐊᒡᒍᖅᓯᒪᔪᖅ 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᒻᒪ ᐃᓕᐅᖅᑲᖅᑕᐅᔪᑦ 2021 ᐊᒻᒪ 2022 ᑲᑎᒪᓂᕐᒧᑦᒪ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ

ᔪᓚᐃ 23, 2020

ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᒪᓂᖅ: 1-877-413-4792 ᐅᕝᕙᓘᓐᓃᑦ 613-960-7516 (ᐋᑐᕚᒥᑦ) ᑲᑎᒪᓂᖅ ᓇᓗᓇᐃᒃᑯᑕᖓ: 778 3688

ᓱᕐᕿᙳᔭᖅ: 12:00-1:30 ᐅᓐᓄᓴᒃᑯᑦ ᑲᓇᓐᓇᐅᑉ ᓱᕿᙵᔭᖓ (1:30-3:00 ᐅᓐᓄᓴᒃᑯᑦ ᓂᐅᐸᐅᓐᓛᓐ).

<u>ᐃᓯᕙᐅᑕᖅ</u> ᑯᕆᔅᑎ ᕗᕇᓴᓐ, ᐊᖏᔪᖅᑳᖅ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ, ᐅᑭᐅᑕᖅᑐᖅ, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ (DFO)

<u>ᐃᓚᐅᔪᑦ</u>

- ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ ᐊᒻᒪ ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᒃᓯᒪᔪᓄᑦ ᐃᖃᓗᖃᓯᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ – ᑯᕆᔅ ᕚᔅᑯᑐ, ᑭᒡᒐᖅᑐᐃᔪᖅ
    - ᐃᒃᑯᓴᐅᓐ ᐃᖃᓗᓕᕆᔩᑦ (EcoSound Fisheries)
    - ᐅᐃᐅᔅᓱᒃ ᐃᖃᓗᓕᕆᔩᑦ (Ueushuk Fisheries) **ᓇᓗᓇᐃᕈᑦ ᐅᐃᐅᔅᓱᒃ ᐱᑕᖃᖅᑎᑦᑎᓚᐅᖅᑐᑦ ᓇᒻᒥᓂᖏᓐᓂ ᑕᑯᓐᓇᖅᑕᖏᓐᓂᑦ ᑖᔅᓱᒧᖓ ᐱᔾᔪᑕᐅᔪᒧᑦ
    - Hᐊᑉᐳ ᒍᕋᐃᔅ ᑭᖑᐸᓕᕆᓂᕐᒧᑦ ᑎᒥᖓᑦ (Harbour Grace Shrimp Co. Ltd)
    - ᐆᓴᓐ ᓲᐃᔅ ᐃᓐᑐᓈᓴᓄ (Ocean Choice International)
    - ᒨᕐᓯ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᓂᕿᑦ ᑎᒥᖓᑦ (Mersey Seafoods Ltd)
    - ᑭᓖᓐᕗᐊᑕ ᑕᕆᐅᕐᒥᐅᑕᐃᑦ ᓂᕿᑦ ᑎᒥᖓᑦ (Clearwater Seafoods Ltd)
    - ᓄᐊᑎᒃ ᑎᒥᖓᑦ (Nordic Ltd.)
- ᑲᕙᒪᖓᑦ ᓂᐅᐸᓐᓛᓐ ᐊᒻᒪ ᓛᐳᑐᐊ, ᐃᒪᕐᒥᐅᑕᓕᕆᓂᒃᑯᑦ ᐊᒻᒪ ᓄᓇᒦᖏᖅᑐᓕᕆᓂᒃᑯᑦ – ᓈᓐᓯ ᐹᓐ
- ᒪᑭᕙᒃ ᑯᐊᐳᓃᓴᓐ – ᑑᓂ ᕋᐃᑦ
- ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᖏᑦ (Northern Coalition) – ᐋᓕᔅᑎᐅ ᐅᕋᐃᓕ, ᑭᒡᒐᖅᑐᐃᔪᖅ:
    - ᒪᑭᕙᒃ ᑯᐊᐳᓃᓴᓐ
    - ᕿᑭᖅᑖᓗᒃ ᑯᐊᐳᑎᓴᒃᑯᑦ
    - ᓛᐳᑐᐊ ᐃᖃᓗᓕᕆᐊᖅᑏᑦ ᑲᑐᔾᔨᖃᑏᖏᑦ ᑭᖑᐸᓕᕆᓂᕐᒧᑦ ᑎᒥᖓᑦ (Labrador Fishermen’s Union Shrimp Company Ltd.)
    - ᑑᕐᖓᐃᑦ ᐃᖃᓗᓕᕆᔩᒃᑯᑦ ᑯᐊᐸᒃᑯᑦ ᑎᒥᖓᑦ (Torngat Fish Producers Co-operative Society Ltd.)
    - ᓄᓇᑦᓯᐊᕗᑦ ᑎᒥᕐᑯᑎᖏᑦ (Nunatsiavut Group of Companies)
- ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᖏᑦ – ᐳᕋᐃᔭᓐ ᐴᖅ, ᑭᒡᒐᖅᑐᐃᔪᖅ:
    - ᐅᑭᐅᑕᖅᑐᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᑦ – Hᐅᐃᑎ ᐆᕈᓪ, ᔭᐃᐱᑎ ᐊᕿᐊᕈᖅ
    - ᕿᑭᖅᑖᓗᒻᒥ ᐃᖃᓗᓕᕆᓂᒧᑦ ᑯᐊᓃᓴᓐ – ᑯᕆᔅ ᐸᓛᓂᑲᓐ, ᑕᐃᕕᑦ ᐋᓕᒃᓵᓐᑐ
    - ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᐃᖃᓗᓕᕆᔩᒃᑯᑦ ᑎᒥᖓᑦ/ᐸᓐᓂᖅᑑᖅ ᐃᖃᓗᓕᕆᔩᒃᑯᑦ ᑎᒥᖓᑦ – ᓴᑭᐊᓯ ᓴᐅᓪᓗᐊᐱᒃ
    - ᕿᑭᖅᑖᓗᒃ ᑯᐊᐳᓃᓴᓐ – ᔨᐅᓇ ᕗᐊᑦᕋ
- ᕋᐃ ᑯᕌᕝ
- ᐅᐃᐅᓱᒃ ᐃᖃᓗᓕᕆᔩᑦ ᑎᒥᖓᑦ ᐱᓕᕆᖃᑎᖏᑦᑐᑦ – ᑎᐅᕆᒃ ᑕᐃᓕ

<u>ᑕᑯᓐᓇᖅᑏᑦ</u>

- ᐅᑭᐅᑕᖅᑐᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᑦ – ᑕᐃᕝ ᐴᓕᕚᕐ
- ᕿᑭᖅᑖᓗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑏᖏᑦ – ᓇᒃ ᓛᒻ, ᔨᐅᓇ ᐃᐅᓪ
- ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ – ᔭᐃᓴᓐ ᐊᑭᐊᕈᖅ, ᐋᒻᐳ ᑲᐃᔪᔅ, ᑭᐅᓇ Hᐅᕗ, ᑎᐊᓅᔅ ᑎᓘ
- ᓄᓇᕗᑦ ᑲᕙᒪᒃᑯᑦ – ᑎᐊᓕᐊ ᔭᖕ ᐊᒻᒪ ᒫᒃ ᕿᓚᕝᕙᖅ
- ᒪᐃᑲᓐ ᒦᐱ ᑭᒡᒐᑐᖅᑕᖓ ᓇᐊᒃ ᓯᒪᓐᔅ
- ᓄᓇᑦᓯᐊᕗᑦ ᑲᕙᒪᒃᑯᖏᑦ – ᑖᑦ ᐳᕈᒻᐋᔪᑦ
- ᐆᓴᓐᔅ ᓄᐊᑦ – ᑯᕆᔅ ᑎᐱᐊᑭ
- ᕿᑭᖅᑖᓗᒻᒥ ᐆᒪᔪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ – ᒪᐃᒃ ᕘᒍᓴᓐ
- ᐃᖏᕋᔪᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ – ᑰᑎ ᑑᕕᐃᐅᔅ
- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ – ᑯᕆᔅᑎ ᕗᕇᓴᓐ, ᐋᔨᓚ ᔭᖕ, ᓯᐅᕆ ᕗᕇᓴᓐ, ᑭᐊᕙᓐ ᐱᐅᓪ, ᑕᐃᓗ ᔭᐃᕙᓐ, ᓖ ᐃᐊᕐᑲᕐ, ᐋᓃᑲ ᐸᐃᓴᒃ, ᔨᐅᕆᒪᐃᔭ ᔭᖕ, ᒫᑦ ᒫᕐᑎᐊᓐ, ᑕᐃᕕᑦ ᑲᓚᐃᓐ, ᒫᒍᓚ ᑐᕆᐊᐳ, ᓵᓐᑎᐅᓯᕙᑦᓯᑭ.

ᐱᔾᔪᑎᖓ ᑐᔅᓯᕋᓂᒧᑦ:
ᕿᓂᕈᑎ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑕᒃᑯᓇᙵᑕᕐᕆᓂᑦ ᒫᓇᕋᑖᖑᓚᐅᖅᑐᒥᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᖓ ᐊᑭᑦᑐ ᖃᓕᕋᓕᖕᒋᓐᓄᑦ ᐅᕙᓂ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0+1 (ᐃᒪᐃᓐᓇᕐᒥᑦ) ᐊᒻᒪ ᐋᖅᑭᑦᑕᐅᓂᖏᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓘᑦᑕᐅᓇᖅᑐᑦ (ᐅᕝᕙᓘᓐᓃᑦ TAC) ᐅᕗᖓ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0 ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᑦ ᐊᕐᕌᒍᓄ 2021 ᐊᒻᒪ 2022.

ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖕᒋᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ:

- ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ (NAFO) ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ (SC) ᐱᑕᖃᖅᑎᑦᑎᓯᒪᔪᑦ ᐱᓕᕆᕖᒧᑦ 2021 ᐊᒻᒪ 2022 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ (TAC) ᐊᑐᓕᖅᑯᔭᐅᔪᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᓐᓄᑦ ᐅᕙᓂ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0+1 (ᐃᒪᐃᓐᓇᒥᑦ). ᓇᓗᓇᐃᖅᑕᐅᓪᓗᓂ:

  “ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑐᑦ ᐊᕐᑎᑦᑐᒥᑦ ᐊᑦᑕᓇᕈᑎᑕᖃᕈᓐᓇᖅᑐᓂ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᓐᓄᑦ ᐅᕙᓂ ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0 + 1 ᑐᖓᓃᑦᑐᓂ Blim ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐅᓇᐅᖕᒋᓐᓇᕈᓂ 36,370 ᑕᓐᔅ.

  ᑕᒪᑐᒪᓂ ᐊᕐᕌᒍᒥ, ᓯᕗᓪᓕᐹᑦᑎᐊᒥᑦ, ᑖᒃᑯᐊ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ ᐊᔾᔨᐅᖕᒋᑦᑐᖅ ᐃᖃᓗᑦᑕᐅᔪᓂᑦ ᓄᓇᖅᐸᓯᒻᒥ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 1B-F, ᐃᓛᒃᑯᖅᑐᖅ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ ᐱᑕᖃᖅᑎᑕᐅᔪ.

  ᖃᐅᔨᓴᖅᑎᓄᑦ ᑐᓐᖓᓂᖃᕐᕆᑦᑐᑦ ᐱᑕᖃᖅᑎᑎᓗᓂ ᐃᓛᒃᑰᖓᔪᒥᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᒻᒥᑦ ᐃᒪᐃᓐᓇᕐᒥᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ 0A+1AB ᐊᒻᒪ ᐊᕕᑦᑐᖅᓯᒪᔪᖅ 0B+1C-F. ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑐᑦ ᐃᓱᒪᒋᔭᐅᓗᑎ ᓇᒧᖓ ᑲᑦᑕᕐᓂᖕᒋᓐᓄᑦ ᐊᑐᓂ ᑕᕝᕙᓂᓵᐃᓐᓇᖅ ᐊᕐᑎᓕᕆᐊᖅᑎᑦᑕᐃᓕᒪᓗᒋᑦ.”

ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖕᒋᑦ ᐃᓚᐅᖃᑕᐅᔪᑦ ᑕᒃᑯᓇᖅᑕᕐᕆᑦ:

- ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ (NFA) ᐳᕋᐃᔭᓐ ᐆᕐ
  ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᑐᓂᓯᔪᑦ ᐅᑯᓂᖓ ᐃᓱᒪᒋᔭᐅᓗᑎ. ᑐᓐᖓᕕᒋᓪᓗᒋᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᑭᐅᔾᔪᑎᖓ ᑲᓇᑕᒧ ᐊᕐᕌᒍᑕᒫᑦ ᖃᐅᔨᒋᐊᓂᕐᒧᑦ ᐊᑦᑐᖅᑕᐅᓂᐅᔪᓐᓇᖅᑐᓂᑦ ᐊᓯᔾᔨᖅᑐᓄᑦ ᐅᑯᓂᖓ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᖁᕝᕙᓯᓐᓂᖕᒋᑦ \ᓲᕐᓗ. “…ᐊᔾᔨᒌᖕᒋᓐᓂᖕᒋᑦ ᑎᑭᓯᒪᔪᓂᑦ 5% ᓴᖅᑮᓂᐊᖅᑑᔮᖕᒋᑦᑐᑦ ᐊᑦᑕᓇᕈᑎᐅᔪᓐᓇᖅᑐᓂᑦ ᐃᖃᓗᓐᓄᑦ ᒫᓐᓇᐅᔪᒥᑦ …”], ᐃᓱᒪᒋᔭᐅᔭᕆᐊᓕᒃ 5% ᖁᕝᕙᕿᐊᕐᓗᑎ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ. ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᓇᓗᓇᐃᖅᓯᔪᑦ ᑖᓐᓇ ᒥᑭᖔᓗᐊᖅᑐᓂ ᖁᕝᕙᕆᐊᕐᓂᖓ ᐱᑕᖃᖅᑎᑦᑎᕙᔭᖅᑐᖅ ᐊᖕᒋᔪᒥᑦ ᑮᓇᐅᔭᓂ ᐃᖃᔫᓯᐊᓂᑦ ᓄᓇᕗᒻᒧᑦ ᐃᖃᓗᓕᕙᓯᐊᖅᑎᓄᑦ ᐱᓕᕆᕕᐅᔪᓄᑦ ᐊᒻᒪ ᓄᓇᓕᓐᓄᑦ. ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᓇᓗᓇᐃᖅᓯᓚᐅᕐᒥᔪᑦ ᐃᓱᒫᓘᑎᖕᒋᓐᓂᑦ ᐱᓯᓂᑦ ᐊᕐᕌᒍᓂᑦ ᐱᑕᖃᕐᕆᓯᒪᒻᒪᑦ ᐊᑐᕋᔅᓴᐅᔪᓂᑦ ᖃᓄᐃᓐᓂᖕᒋᓐᓂᑦ ᐊᕐᕌᒍᑕᒫᑦ ᐊᒥᓱᓂᑦ ᐆᒪᔪᓂᑦ ᖃᐅᔨᓴᓂᕐᒥᑦ, ᐱᔾᔪᑎᒋᓪᓗᒍ ᒪᕐᕉᒃ ᖃᐅᔨᓴᓂᐅᔫᒃ ᐱᔭᐅᑎᓐᓇᒋᑦ ᖃᐅᔨᓴᐸᓂᐅᔪᓂᑦ ᐊᒻᒪ ᐊᑕᐅᓯᖅ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᑐᑭᓯᒋᐊᕈᑎᖃᖅᑎᑦᑎᓚᐅᖅᑐᖅ ᐊᔾᔨᒌᓐᖑᐊᖅᑎᒐᔅᐅᖕᒋᑦᑐᒥᑦ ᒫᓐᓇᐅᔪᒥᑦ ᖃᐅᔨᓴᕐᓂᐅᔪᓄᑦ. ᐊᐱᖅᑯᑎᔅᖓᖃᖅᑐᖅ ᐊᒻᒪ ᐃᓱᒪᒌᓐᑎᓂᑦ ᓯᕗᓂᔅᓯᒥ ᖃᐅᔨᓴᕐᓂᐅᓂᐊᖅᑐᓂᑦ ᐊᒻᒪ ᐊᔾᔨᒌᓐᖑᐊᖅᑎᒐᔅᐅᓂᖓᓄᑦ ᐊᑯᓂᐅᓂᖕᒋᓐᓄᑦ ᑕᒪᓐᓇ ᖃᓄᖅ ᑐᑭᖃᓂᐊᕐᓂᖓᓄᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᒪᒧᑦ ᓯᕗᓂᔅᓯᒥ ᐅᖓᑖᓄ 2022. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᑖᓐᓇ ᐱᕕᖃᕋᓱᐊᖅᑐᖅ ᒫᓐᓇᐅᔪᒥᑦ ᐱᕕᔅᓴᐅᔪᒥᑦ ᒥᑭᔪᒥᑦ ᖁᕝᕙᕆᐊᖅᑐᒥᑦ ᐱᒻᒪᕆᐅᓂᖅᓴᐅᓕᖅᑐᓂ.

- ᕿᑭᖅᑖᓗᒃ ᑯᐊᐳᓃᓴᓐ ᔾᐅᕆ ᕗᐊᕐᑦ
  ᐊᖕᒋᖅᑐᖅ ᑕᒃᑯᓇᖅᑕᐅᔪᓂᑦ ᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ.

- ᐅᑭᐅᑕᖅᑐᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ Hᐃᐅᕆ ᐆᑭ, ᔭᐃᐱᑎ ᐊᕿᐊᕈᖅ
  ᐊᖕᒋᖅᑐᖅ ᑕᒃᑯᓇᖅᑕᐅᔪᓂᑦ ᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ.

- ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑎᒥᖓᑦ/ᐸᓐᓂᖅᑑᖅ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑎᒥᖓᑦ ᓴᑭᐊᓯ ᓴᐅᓪᓗᐊᐱᒃ
  ᐊᖕᒋᖅᑐᖅ ᑕᒃᑯᓇᖅᑕᐅᔪᓂᑦ ᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ.

- ᕿᑭᖅᑖᓗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ – ᑯᕆᔅ ᐸᓛᓂᒐᓐ, ᑕᐃᕕᑦ ᐋᓕᒃᓵᓐᑐ
  ᐊᖕᒋᖅᑐᖅ ᑕᒃᑯᓇᖅᑕᐅᔪᓂᑦ ᐱᑕᖃᖅᑎᑕᐅᔪᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ.

- ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᒌᑦ (NC) – ᐋᓕᔅᑎᐅ ᐅᕋᐃᓕ
  ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐃᓱᒪᒨᑦᑐᑦ ᐱᑕᖃᕐᕆᑦᑐᒥᑦ ᓴᓇᓯᒪᓂᖓᓄᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓱᒪᓕᐅᖅᑕᐅᔪᓐᓇᖅᑐᓂᑦ. ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᒌᑦ – ᐋᓕᔅᑎᐅ ᐅᕋᐃᓕ ᐊᐱᕆᔪᑦ ᓇᓗᓇᐃᖅᓯᒪᑦᑎᐊᖅᑐᒥᑦ

ᖃᐅᔨᓴᖅᑎᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ ᐊᑐᐃᓐᓇᐅᓕᕈᓂ ᐊᒡᒋᖅᑐᓂᑦ ᐊᕐᕌᒍᓂᑦ ᐊᒻᒪ ᐃᓱᓪᓗᑦᑐᑦ ᐃᖃᓗᒃᑦᑕᖅᑐᑦ ᒪᓕᓐᓂᖃᕐᐊᖅᑐᑎᑦ ᒫᓐᓇᐅᔪᒥᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᒻᒥᑦ ᐅᑯᓄᖓ 3-4 ᐊᕐᕌᒍᓂᐊᖅᑐᓄᑦ. ᐱᑕᖃᖅᑎᓐᓇᒋᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᓴᓇᓯᒪᓂᖓᓄᑦ ᐊᒻᒪ ᐱᑕᖃᕐᒋᓐᓂᖓᓄᑦ ᓄᑖᑦ ᖃᐅᔨᓴᓂᕐᒥᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᖃᐅᔨᑎᑦᑎᓗᑎ ᓇᓪᓕᐊᓐᓂᑐᐃᓐᓇᖅ ᐅᐊᓐᓇᖓᓚ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒋᖕᒋᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᕝᕙᓗᓐᓃᑦ CSAS, ᐃᖃᓗᒐᓱᐊᖅᑏᑦ ᓯᕗᓂᐊᒍᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᒃᑯᑦ ᐱᓇᓱᐊᕐᓂᖃᑐᐃᓐᓇᕆᐊᖅᑐᑦ ᐱᕕᖃᓱᖕᒋᓪᓗᒋᑦ ᐱᑕᖃᕈᓐᓇᖅᑎᑕᐅᔪᖅ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ ᖁᕝᕙᕆᐊᕐᓂᖏᑦ. ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐃᑲᔪᖅᑐᑦ ᐱᓇᓱᐊᖅᑕᐅᓗᓂ ᒫᓐᓇᐅᔪᒥᑦ ᐱᑕᖃᖅᑐᖅ ᑮᓕᕆᔭᖏᓐᓂᑦ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᒻᒧᑦ.

ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᒌᑦ ᑐᑭᓯᔭᐅᓂᖓ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᖓ ᑖᓐᓇ 5% ᖁᕝᕙᕆᐊᕐᓂᖅ ᐱᓇᓱᐊᖅᑎᑦᑎᓗᐊᖏᑦᑐᖅ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐊᑦᑎᑦᑐᓂᑦ ᐊᑦᑕᓇᕈᑎᖃᕈᓐᓇᕐᓂᖓᓄᑦ ᐃᖃᓗᓐᓄᑦ, ᐲᖅᑕᐅᓂᖏᑦ ᓄᓇᖅᐸᓯᒥ ᐊᑯᑭᑦᑐᓂ ᐃᖃᓗᓕᕆᓂᖅ (ᐃᖃᓗᖃᑦᑕᖅᓯᒪᔪᖏᑦ ᐅᖓᑕᐅᔾᔨᖃᑦᑕᖅᑐᓂᑦ) ᖃᐅᔨᓴᕐᓂᐅᓯᒪᔪᓂᑦ ᐊᒻᒪ ᓴᖏᓕᕐᓗᓂ ᑮᓇᐅᔭᓕᐅᕆᓯᓐᓂᕐᒧᑦ ᐃᖃᓗᓕᒍᓯᓐᓂᕐᒧᑦ ᖃᓄᐃᓐᓂᕆᔭᖏᑦ. ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ ᖃᐅᔨᓴᖅᑎᓃᖕᖑᖅᑐᓂᑦ ᑐᓐᖓᓂᖃᕐᒋᑦᑐᑦ ᐊᔾᔨᒌᖏᑎᓪᓗᒍ ᐅᖃᐅᔾᔨᒋᐊᕈᑦ ᖁᕝᕙᕆᐊᕐᓂᖅ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᑦ 0A ᐊᒻᒪ 0B ᐊᒻᒪ ᐃᓱᒪᒋᔭᐅᓗᓂ ᓇᒧᖓᖃᑦᑕᕐᓂᖏᑦ ᐊᑐᓂ ᑕᕝᕙᓂᖔᐃᓐᓇᖅ ᐊᑦᑎᓕᒋᐊᖁᓇᒋᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑐᑦ ᐊᑐᓕᖁᔭᐅᔪᖅ ᖁᕝᕙᕆᐊᕐᓂᒥᑦ 5% ᐊᑐᖅᑕᐅᔭᕆᐊᓕᒃ ᐊᒃᑐᖅᓯᒪᔪᒧᑦ 0B.

- <u>ᒪᑭ–ᒃ ᑯᐊᐳᓃᓴᓐ ᑑᓂ ᕋᐃᑦ</u>
  ᐊᕐᒥᖅᑐᖅ ᑕᑯᓵᖅᑕᐅᔪᓂᑦ ᐱᑕᖅᑎᑕᐅᔪᑦ ᐅᑭᐅᑕᖅᑐᒥ ᑲᑐᔾᔨᖃᑎᒌᑦ.

- <u>ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ (AGC)</u> ᐊᒻᒪ <u>ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᕐᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ (AFC)</u> ᑯᓇᕐ ᕚᕐᑳᑐ
  ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ – ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᕐᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ ᑕᑯᓐᓇᖅᑕᖏᑦ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ ᐃᓱᒪᓕᐅᖅᑕᐅᔪᖅ, ᐃᓱᒪᒋᔭᖃᓚᐊᓛᑦ ᑭᒡᓕᖅᑲᖅᑎᑕᐅᓗᑎ ᑭᒡᓕᖅᑲᖅᑎᑕᐅᔪᓂᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᒥᑦ ᐅᑯᓄᖓ ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ. ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ (GHL) ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᐊᒃᑐᖅᓯᒪᔪᒥᑦ 0 ᐱᑎᑕᐅᕋᑖᖅᓯᒪᔪᑦ ᓇᓗᓇᐃᒃᑯᑕᒥᑦ ᐊᑖᓂ ᐃᒪᕐᒥ ᐅᒥᐊᖅᑐᖅᑎᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ (MSC), ᖃᐅᔨᒪᑎᑕᐅᔭᕆᐊᓕᒃ ᐃᒪᕐᒥ ᐅᒥᐊᖅᑐᖅᑎᐅᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑦ ᐱᑕᖃᕆᐊᖃᖅᑎᑕᐅᔪᑦ ᐋᖅᑭᑦᑕᐅᑎᓪᓗᒍ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ. ᐅᑯᐊᕐᒍᒐᓗᐊᖅᑎᓪᓗᒋᑦ ᐊᑦᓛᓐᑎᒃ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᑲᑎᒪᔩᑦ – ᐊᑦᓛᓐᑎᒃ ᐋᖅᑭᕐᓯᒪᔪᓄᑦ ᐃᖃᓗᓚᓱᐊᕈᑏᑦ ᑲᑎᒪᔩᑦ ᐃᓚᒋᔭᐅᔪᑦ ᐃᓱᓪᓗᑦᑐᑦ ᔭᒐᐃᔭᐅᓯᒪᔪᓂᑦ ᐱᕕᖅᓴᐅᔪᓂᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ ᖁᕝᕙᕆᐊᕐᓂᖓᓄᑦ ᕿᓚᒥᐅᔪᒧᑦ, ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᐊᑯᓂᐅᔪᒧᑦ ᐆᒪᕙᑦᑐᑦ ᐊᒻᒪ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ, ᐃᖃᓗᓚᓱᐊᖅᑏᑦ ᔭᒐᐃᒐᔭᖏᑦᑐᑦ ᐱᕕᖅᓴᐅᔪᓂᑦ ᐊᑯᓂᐅᔪᒧᑦ. ᓇᓗᓇᐃᖅᓯᒪᔪᒧᑦ, ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᓱᓕ ᐊᑐᐃᓐᓇᐅᔭᕆᐊᓖᑦ ᐃᖃᓗᓚᓱᐊᑕᐅᓗᑎ ᐃᓂᖕᒐᓐᒃᑲᓂᓕᕈᑦᑕ ᐃᓱᒪᒋᓗᒍ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ ᖁᕝᕙᕆᐊᕐᓂᐅᔪᑦ. ᐃᓚᒋᐊᕐᓗᒍ, ᐊᕐᕌᒍᓂᑦ ᐊᒡᒋᖅᑐᒥᓂᑦ, ᑐᔾᔨᖃᐅᑏᑦ/ᐅᐊᓐᓇᖓᑕ ᐱᖓᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔩᑦ for ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᒻᒥᑦ ᑐᓂᔭᐅᔭᕆᐊᓕᒃ ᐊᕐᒥᓂᖕᓴᒥᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᑭᒡᓕᖅᑲᖅᑎᑕᐅᕐᒋᑦᓗᑎ ᐅᖃᐅᔾᔨᒋᐊᕈᒻᒥᑦ ᐊᒻᒪ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᑭᒡᓕᖅᑲᖅᑎᑕᐅᔪᑦ ᓇᓖᕌᕋᓴᓂᑦ.

- <u>ᐅᐃᐅᓱᒃ ᐃᖃᓗᓕᕆᔩᑦ</u> ᑎᐅᕆᒃ ᑕᐃᓕ
  ᐅᐃᐅᓱᒃ ᓇᓗᓇᐃᓱᔪᑦ ᓈᒻᒪᓴᕐᒋᓐᓂᕋᖅᑐᑎᑦ ᐱᑕᖃᑦᑎᐊᕐᒋᓐᓂᖓᓄᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᖃᐅᔨᑎᑦᑎᒍᑎᐅᓂᐊᖅᑐᓂᑦ ᖃᐅᔨᓴᖅᑎᓄᑦ ᑲᑎᒪᔨᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᕈᑎᕐᒋᓐᓄᑦ, ᐃᖃᓗᑦᑕᐅᖃᑦᑕᖅᑐᑦ ᖁᕝᕙᓯᓐᓂᕐᒋᑦ ᐱᐅᔪᑦ ᐊᒻᒪ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ ᐃᖃᓗᐃᑦ ᐊᒥᓲᓂᕐᒋᑦ ᖃᓄᐃᕐᒋᑦᑎᐊᕐᒋᓐᓇᖅᑐᑦ. ᖃᓕᕋᓕᓐᓂᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᖅ ᑮᓇᐅᔭᓕᐅᕐᓂᒧᑦ ᐱᒻᒪᕆᐅᔪᖅ ᐊᒥᓱᓄᑦ ᐅᑭᐅᑕᖅᑐᒥᐅᑕᓄᑦ ᐅᐊᓐᓇᖓᓂ ᓀᐸᑐᐊ ᓄᓇᓕᖕᒋᓐᓄᑦ, ᐊᒻᒪ ᑐᓂᖃᖅᑐᓂ ᑮᓇᐅᔭᓕᐅᕐᓂᒧᑦ ᐃᓱᒪᒋᔭᐅᓂᖓᓄ, ᐱᕕᖅᓴᐅᔪᑦ ᖁᕝᕙᕆᐊᕐᓂᕐᒋᓐᓄᑦ ᑲᑎᑦᑐᒋᑦ ᐃᖃᓗᑦᑕᐅᔾᔭᓐᓇᖅᑐᑦ ᑐᓐᖓᓱᑦᑎᑕᐅᓚᔭᖅᑐᑦ.

- <u>ᕋᐃ ᑯᕌᕝ</u>
  ᐊᕐᒥᖅᑐᖅ ᑕᑯᓐᓇᖅᑕᐅᔪᓂᑦ ᐱᑕᖅᑎᑕᐅᔪᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑦ.

- <u>ᓚᕙᒪᖕᒐᑦ ᓂᐅᐸᐅᓛᓐ ᐊᒻᒪ ᓛᐸᑐᐊ ᓈᓐᓯ ᐹᓐ</u>
  ᐃᓱᒪᒋᔭᖃᕐᓂᐊᖅᑐᒍᑦ ᑕᑯᓐᓇᖅᑕᖏᓐᓂ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐊᒻᒪ ᐱᑕᖃᖅᑎᓂᐊᖅᑕᕗᑦ ᑕᑯᓐᓇᖅᑕᖏᑦ ᑎᑎᕋᖅᓯᒪᔪᒃᑯᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ ᑲᓇᑕᒥ.

ᑕᑯᓐᓇᖅᑎ ᑕᑯᓐᓇᖅᑕᖏᑦ:

- ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᑐᓯᕋᖅᑐᑦ ᑎᑎᕋᖅᑕᐅᓂᖏᑦ ᐅᕙᓂ ᑲᑎᒪᓂᐅᔪᒥᑦ ᐱᖅᓯᐅᔾᔭᐅᓯᒪᓗᑎ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᑐᓂᔭᐅᔪᓄᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ.

ᐱᖅᑖ ᐱᓕᕆᒋᐊᕐᓂᐅᑉ:

- ᑲᑎᒪᓂᕐᒧᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᑐᓂᐅᖅᑲᖅᑕᐅᓖᖅᑐᑦ ᐅᑯᓄᖓ EAGSAC ᑭᖑᓪᓕᖅᐹᒥᑦ ᐋᖅᑭᑦᑕᐅᔭᕇᖅᓯᒪᓕᕈᑎ
- ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᑐᓂᓯᕐᑯᔭᐅᔪᑦ ᐃᓱᒪᒋᔭᖏᓐᓂᑦ ᑎᑎᕋᖅᓯᒪᓗᑎ ᐅᕗᖓ Christi.Friesen@dfo-mpo.gc.ca ᑎᑭᓚᐅᖅᑎᓐᓇᒍ ᐋᒻᒦᓯ 15, 2020.
- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᑐᓂᓯᓂᐊᖅᑐᑦ ᓇᓗᓇᐃᔭᐃᔪᓂᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᓯᑎᐱᕆ 7, 2020 ᑲᑎᒪᔾᔫᑦ ᑲᑎᒪᓂᖏᓐᓄᑦ ᑐᔾᓴᖅᑐᑦ ᐊᑐᓕᕐᑯᔭᐅᔪᓂᑦ ᐅᑯᓄᖓ 2021 ᐊᒻᒪ 2022 ᐊᒡᒍᑐᖅᓯᒪᔪᖅ 0 ᑲᑎᑦᑐᒋᑦ ᐃᖃᓘᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᐊᒻᒪ ᐃᓕᐅᖅᑲᖅᑕᐅᓂᖏᓐᓄᑦ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ. ᐅᑯᐊ ᑲᑎᒪᓂᕐᒧᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᐱᖃᓯᐅᔾᔭᐅᓂᐊᖅᑐᑦ ᐅᕙᓂ ᓇᓗᓇᐃᔭᐃᓂᕐᒥᑦ.

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ᐅᒍᓯᑎ 4, 2020

ᔭᐃᓴᓐ ᐋᕿᐊᖅ, Jason Akearok
ᐊᓯᓚᕕᒻᒥ ᐊᖓᔪᖅᑳᖅ
ᓄᓇᕗᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᕐᔪᐊᖏᑦ
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ᐱᔾᔪᑕᐅᔪᖅ: **ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᖃᓕᕋᓖᑦ ᑭᓪᓕᓕᐅᕐᑕᐅᓯᒪᓂᖓᒍᑦ Subarea 0,ᒥ ᐊᑯᑎᑦᑐᖅ ᖃᔨᕋᓕᖏᓐᓂᑦ ᐊᑯᓐᓂᖏᓐᓂ ᐊᕐᕌᒍᑦ 2021 ᐊᒻᒪ 2022 ᐃᖃᓪᓂᐊᕐᓇᕐᑎᓪᓗᒍ**

ᒥᔅᑕ ᐋᕿᐊᕐᒧᑦ: De

ᖁᔭᓐᓇᒦᑦ ᑎᑎᖃᕐᓄᑦ ᔪᓚᐃ 28,ᒥ ᑐᒃᓯᕋᕈᑎᓄᑦ ᐃᑲᔪᕐᑕᐅᔪᒪᓪᓗᑎᒃ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᓄᑦ, (NFA) ᐱᔾᔪᑎᖃᕐᓯᑎᒃ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᓂᒃ (TAC) ᐊᑯᑭᑦᑐᓂᖅ ᖃᓕᕋᓕᓐᓂᑦ ᐅᑯᓂ Subarea 0+1 (ᐃᒪᕐᐱᒥ) ᐊᕐᕌᒍᖏᓐᓂ 2021 ᐊᒻᒪ 2022 ᐃᖃᓪᓕᐊᕐᓇᕐᑎᓪᓗᒍ, ᐊᒻᒪ ᑖᒃᑯᐊ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᖁᕕᐊᓱᑦᑐᑦ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᒥᒃᓵᓄᑦ ᐅᑯᓂ Subarea 0, ᑐᓂᓯᓂᒃᑯᑦ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᓂᒃ ᓇᓗᓇᐃᕐᑕᐅᓯᒪᔪᓂ 0A,ᒥ ᐊᒻᒪ 0B,ᒥ ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᐃᖃᓗᒐᓯᐊᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᑖᒃᑯᓇᖓᑦ Division 0A,ᒥ ᐊᒻᒪ 0B,ᒥ.

ᔪᓚᐃ 23, 2020,ᒥ, ᑲᓇᑕᒥ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ, (DFO) ᑲᑎᒪᖅᑎᖃᓚᐅᕐᒪᑕ ᐱᓕᕆᖃᑕᐅᕙᑦᑐᓂᒃ ᐅᖃᐅᓯᖃᕐᑯᓪᓗᒋᑦ ᐃᓱᒪᒋᔭᖏᓐᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᒥᒃᓵᓄᑦ ᐅᑯᓂ Subarea 0 ᐊᑯᑭᑦᑐᑦ ᖃᓕᖏᓐᓂᑦ ᐊᕐᕌᒍᓂ 2021 ᐊᒻᒪ 2022 ᐃᖃᓪᓕᐊᕐᓇᕐᑎᓪᓗᒍ. ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᐃᓚᐅᓯᒪᔪᑦ ᑲᑎᒪᑎᓪᓗᒋᑦ ᐅᖄᓚᐅᑎᒃᑯᑦ ᐊᒻᒪ ᓇᓗᓇᐃᔭᐃᓯᒪᓪᓗᑎᒃ ᐅᑯᓂᖓ ᑭᒡᒐᕐᑐᕐᓯᑎᒃ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᒃᑯᑦ ᑮᓇᐅᔭᓕᐅᕐᓂᕐᒧᑦ ᑐᙵᖓᔪᓂᒃ:

- ᒪᓕᓪᓗᒋᑦ ᑲᓇᑕᐅᑉ ᑲᓐᓇᖓᓂ ᐅᑭᐅᕐᑕᕐᑐᒥᓗ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑕ ᑭᐅᔾᔪᑎᖏᑦ ᑲᓇᑕᒥ ᐊᕐᕌᒍᒥ ᕿᒥᕐᕈᓂᖏᑎᒍᑦ ᐊᑲᐅᖏᑦᑐᒃᑯᑦ ᐊᑦᑐᐃᓂᖃᑐᐃᓐᓇᕆᐊᖃᓂᐊᓂᒃ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᑐᒃᓯᕋᕐᑕᐅᑎᓪᓗᒋ ᐅᓄᕐᓯᕆᐊᕐᕚᔪᓪᓗᒋᑦ 5%,ᒧᑦ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᓂᑦ, ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐅᖃᕐᓯᒪᓪᓗᑎᒃ ᒥᑭᔪᒥᒃ ᐊᖏᓪᓕᒋᐊᕐᑕᐅᓂᖃᕐᐸᑕ ᐊᒃᓱᐊᓗᒃ ᐃᑲᔪᕐᓂᖃᕋᔭᕐᒪᑕ ᑮᓇᐅᔭᓕᐅᕐᓂᒃᑯᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᒃᑯᑦ ᐊᒻᒪ ᓄᓇᓕᓐᓂᒃ.

- ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐅᖃᐅᓯᖃᓚᐅᕐᒥᔪᑦ ᐃᓱᒫᓗᒍᑎᒋᔭᒥᓂᒃ ᐱᔾᔪᑎᖃᕐᓯᑎᒃ ᐱᖓᓱᓂ ᐊᕐᕌᒍᓂ ᑲᒪᒋᔭᐅᓯᒪᖏᓐᓂᖏᓐᓂᒃ ᑲᒪᒋᔭᕆᐊᓖᑦ ᐊᕐᕌᒍᑕᒪᒥ ᐊᔾᔨᒌᖏᑦᑐᓂᒃ-ᐅᒪᔪᓂᒃ ᓄᖑᓐᓂᐅᔭᕐᑐᒋᔭᐅᔪᓂᒃ ᖃᐅᔨᓴᕐᓂᒧᑦ, ᐱᔾᔪᑎᒋᓪᓗᒍ ᒪᕐᕈᓄᑦ ᐊᕐᕌᒍᓄᑦ ᖃᐅᔨᓴᕐᓯᒪᖏᓐᓂᖏᓐᓂᒃ ᐊᒻᒪ ᐊᑕᐅᓯᕐᓂᒃ ᖃᐅᔨᓴᕈᑕᐅᓯᒪᔪᓂᒃ ᓴᖅᑭᑎᓯᓯᒪᓪᓗᑎᒃ ᓈᒻᒪᓈᖏᑦᑐᓂᒃ ᐅᓪᓗᒥ ᐊᑐᕐᑕᐅᔪᓄᑦ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ. ᐊᐱᖅᑯᓯᕐᑕᖅᐅᒪᑕ ᐊᒻᒪ ᐃᓱᒫᓗᒍᑎᖃᕐᓯᑎᒃ ᓯᕗᓂᒃᓴᒥ ᖃᐅᔨᓴᕐᓂᐅᓚᔭᕐᑐᓂᒃ ᐊᒻᒪ ᓈᒻᒪᒻᒪᖔᑕ ᐊᑐᓇᐊᓕᓐᓄᑦ, ᑕᒪᒃᑯᐊ ᖃᓄᖅ ᐊᒃᑐᐃᓂᖃᕋᔭᕐᒪᖔᑕ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᓄᑦ ᓯᕗᓂᒃᓴᒥ ᐅᖓᑖᓄᑦ 2022. ᑕᒪᒃᑯᑎᒍᓇ ᐃᑲᔪᕐᓂᖃᕋᔭᕐᒪᑦ ᐱᕕᒃᓴᖃᕐᑎᑦᓯᓂᒃᑯᑦ ᐊᒥᓲᖏᑦᑐᓄᑦ ᐅᓄᕐᓯᕆᐊᕐᑕᐅᒃᐸᑕ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᐊᓯᐦᖏᑦ ᐱᒻᒪᕆᐅᓂᖅᓴᐅᒻᒪᑕ.

ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᕐᑎᒌᑦ ᖁᔭᓕᕗᑦ ᐊᖏᓪᓕᒋᐊᕐᑕᐅᔪᓐᓇᕐᓂᖏᓐᓂᒃ ᒥᑭᔪᒃᑰᓗᐊᖅ 5%,ᒧᑦ ᐅᓄᕐᓯᕆᐊᕐᐸᑕ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᐊᕐᕌᒍᖏᓐᓂ 2021 ᐊᒻᒪ 2022. ᑖᒃᑯᐊ ᑐᑦᓯᕋᕐᑕᖏᑦ ᓈᒻᒪᓈᕐᒪᑕ ᑲᓇᑕᐅᑉ ᑲᓐᓇᖓᓂ ᐅᑭᐅᕐᑕᕐᑐᒥᓗ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖏᑕ ᖃᐅᔨᓴᕐᑎᖏᑕ ᐃᓱᒪᒋᔭᖏᓐᓄᑦ, ᐃᒪᐃᓕᖓᔪᓄᑦ:

ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ
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2020,ᒥ ᑲᓇᑕᐅᑉ ᒐᕙᒪᖓᓄᑦ ᑐᑦᓯᕋᕐᑕᖅ ᐅᓇ: ᒐᕙᒪᒃᑯᑦ ᑲᔪᖏᕐᓯᐃᒻᒪᑕ ᖃᐅᔨᓴᓂᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔨᓂᒃ ᕿᒥᕐᕈᐃᓐᓇᖁᓪᓗᒋᑦ ᐋᖅᑭᒃᓱᐃᒋᐊᖅ ᐊᑦᑕᓇᕈᑕᐅᑐᐃᓐᓇᕆᐊᓕᓐᓄᑦ ᐃᑲᔪᕈᑎᒃᓴᓂᒃ, ᐊᒻᒪ ᐱᖃᓯᐅᑎᓗᒋᑦ ᖃᓄᖅ ᐊᑦᑐᐃᓂᖃᕋᔭᕐᒪᖔᑕ ᐃᖃᓗᓐᓂᐊᕆᐊᖅ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᓂᑦ (ᓵᕐᓗ, +/- 5-15%) ᐃᖃᓗᓐᓂᑦ ᐊᓯᔾᔨᑐᐃᓐᓇᕆᐊᖃᓂᖏᓐᓄᑦ.
ᑭᐅᔾᔪᑎᒃ: ᐅᓄᕐᓂᖏᓐᓂᒃ ᕿᒥᕐᕈᓂᖅ ᐆᒪᔪᑦ ᐊᑦᑕᓇᕐᑐᒥᑐᐃᓐᓇᕆᐊᓖᑦ ᐃᖃᓗᓐᓂᐊᕐᓂᒃᑯᑦ ᖃᓄᕐᑐᕈᑎᒃᓴᐃᑦ ᐊᑐᕐᑕᐅᔪᓐᓇᖏᒻᒪᑕ ᐊᑐᕐᓗᒋᑦ ᑐᑭᓯᒋᐊᕐᕕᒃᓴᐃᑦ ᐊᑐᕐᓯᒋᑦ ᕿᒥᕐᕈᓂᕐᒧᑦ ᐆᒪᔪᓂᒃ ᐊᒻᒪ ᐅᓄᕐᓂᖏᓐᓄᑦ ᑐᑭᓯᒋᐊᕈᑎᒃᓴᓂᒃ. ᐃᒫᒃ ᐊᔾᔨᒋᖏᓐᓂᖃᒪᑕ ᐅᓄᕐᑎᒋᔪᓂᒃ Whereas ***differences of up to 5%*** ***ᐊᑦᑕᓇᕈᑕᐅᖏᒻᒪᑕ ᐅᓄᕐᓂᖏᓐᓄᑦ ᐃᖃᓗᐃᕐ,*** *sᐅᓄᕐᓯᒋᐊᕐᑎᑕᐅᓗᐊᕐᐸᑕ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᑲᔪᓯᑦᓯᐊᕋᔭᖏᒻᒪᑕ ᐊᑯᓂᐅᔪᒃᑯᑦ.*

ᐊᕐᕌᒍᓂ 2021 ᐊᒻᒪ 2020,ᒥ ᑲᓇᑕᐅᑉ ᑲᓇᓐᓇᖓᓂ ᐅᑭᐅᕐᑕᕐᑐᒥᓗ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᖃᐅᔨᓴᕐᓂᕐᒧᑦ ᑲᑎᒪᔨᖏᑕ ᖃᐅᔨᓴᕐᑎᖏᑦ ᐃᓱᒪᓯᒪᔪᑦ ᐃᑲᔪᕈᑎᒃᓴᓂᒃ ᐊᓯᖏᓐᓂᒃ ᐃᖃᓪᓕᐊᕐᓂᕐᒧᑦ ᐅᕙᓂ 0+1 ᐊᒻᒪ ᐃᖃᓪᓕᐊᕐᓂᒃᑯᑦ ᐊᑯᑭᑦᑐᐃᑦ ᐃᒪᕐᐱᖑᓐᓂᒃ, ᓵᕐᓗ ᐊᕐᕌᒍᕆᔭᕐᑎᓐᓂ, ᓯᕗᓪᓕᕐᐹᕐᓯᐊᒥ, ᐃᒫᒃ ᐃᓱᒪᕆᔭᐅᔪᑦ ᐃᖃᓪᓕᐊᖃᑦᑕᕆᐊᖅ ᐃᒪᕐᕕᖏᓐᓂ ᓇᓗᓇᐃᒃᑯᑕᓕᓐᓂ Divisions 1B-F, ᐊᓯᐊᓂᒃ ᐃᓱᒪᒋᔭᓂᒃ ᑐᓂᓯᓂᒃᑯᑦ. ᑕᒪᓐᓇ ᐱᔭᓪᓕᕈᑕᐅᒪᓇᑦᑐᖅ ᐱᔾᔪᑎᒋᓪᓗᒋᑦ ᑭᖑᓂᕐᒥ ᐊᑲᐅᖏᓕᐅᑕᐅᓯᒪᔪᑦ ᐅᓄᕐᑎᑦᓯᓗᐊᕐᓯᒪᓂᕐᒧᑦ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᓂᒃ ᐅᓄᓗᐊᕐᓂᖏᓐᓄᑦ ᐃᖃᓗᓐᓂᐊᕐᓂᒃᑯᑦ ᐃᒪᕐᓂ. ᒪᓕᓪᓗᒋᑦ ᐅᖃᐅᓯᐅᓯᒪᔪᑦ ᖁᓛᓂ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᕿᒥᕐᕈᓚᐅᕐᒪᑕ ᐅᓄᕐᓯᒋᐊᕐᑕᐅᓂᖏᓐᓄᒃ 5%,ᓄᑦ ᐊᑲᐅᓈᕐᒪᑦ ᑭᖑᓂᐅᓕᕐᑐᒥ ᐊᒻᒪ ᐊᑕᓇᓕᕈᑕᐅᔾᔮᓇᓂᒃ ᐃᖃᓗᓐᓄᑦ, ᐃᖃᓗᓐᓂᐊᕐᓂᒃᑯᑦ ᐊᑯᑎᑦᑐᓂ ᕿᒥᕐᕈᔭᐅᑎᓪᓗᒍ, ᐊᒻᒪ ᐃᖃᓗᓕᕆᓂᐅᑉ ᕿᒥᕐᕈᔭᖑᓯᒪᓂᖏᑎᒍᑦ ᑲᔪᓯᑦᓯᐊᕐᓯᒪᔪᖅ.

ᓯᕗᓂᐊᓂ ᖃᐅᔨᒪᑐᕐᓕᓂᕐᒧᑦ ᑲᑎᒪᔨᕐᔪᐊᑦ ᐅᑯᓂᖓ ᐅᖃᐅᓯᖃᕐᓯᒪᔪᑦ: ᖃᐅᔨᓴᕐᑎᒻᒪᓇᓐᓂᑦ ᑐᓂᓯᓯᒪᖏᒻᒪᑕ ᐊᓯᖏᓐᓂᒃ ᐃᑲᔪᕈᑎᒃᓴᓂᒃ ᐃᒪᕐᒥ ᐃᖃᓪᓕᐊᕐᐸᓐᓂᕐᒧᑦ ᐅᑯᓇᓂ ᓇᓗᓇᐃᕐᑕᐅᓯᒪᓂᓕᓐᓂ. ᓇᓗᓇᐃᔭᕐᑕᐅᓯᒪᓂᖏᓐᓂ ᐅᕙᓂ 0A+1AB ᐊᒻᒪ 0B+1C-F,ᒥ. ᖃᐅᔨᓴᕐᓂᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ ᐃᓱᒪᒃᓴᖅᓯᐅᕈᑕᐅᖁᔨᔪᑦ ᐃᖃᓪᓕᐊᖕᐅᔪᓐᓇᕐᑐᓂᒃ ᑕᒪᐃᓐᓂ ᐅᓄᕆᓐᓇᕐᐸᓪᓕᐊᕐᑯᓇᒋᑦ ᐃᖃᓗᐃᕐ. ᒪᓕᓪᓗᒋᑦ ᒫᓐᓇᕋᑖᒥ ᐊᑐᕐᑕᐅᓚᐅᕐᑐᑦ ᑐᑦᓯᕋᕐᓂᕐᒧᑦ ᑲᑎᓪᓗᒋᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᕐᑐᑦ ᐅᓄᕐᓯᒋᐊᕐᑯᓪᓗᒋᑦ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐃᑲᔪᕐᓯᒐᔭᕐᓂᕋᓚᐅᕐᑐᑦ ᐊᕕᑦᓯᐊᕐᓂᒃᑯᑦ 50/50 ᑲᓇᑕᒥ ᐅᓄᕐᓯᒋᐊᕐᑎᑕᐅᓂᖏᓐᓄᑦ ᐃᒪᕐᓂ ᓇᓗᓇᐃᕐᑕᐅᓯᒪᔪᓂᒃ 0A,ᒥ ᐊᒻᒪ 0B,ᒪ, ᐃᖃᓗᓐᓂᐊᕈᓐᓇᕐᓂᐊ ᐊᕕᓯᒪᑦᓯᐊᕐᓗᒍ.

ᐱᔾᔪᑎᒋᓪᓗᒍ ᓇᓗᓇᕿᓂᐊ ᓯᕗᓂᒃᓴᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐃᓱᒪᓕᐅᕈᓐᓇᕐᓂᕐᒧᑦ ᐊᒻᒪ ᑭᖑᕙᕆᐊᕐᑐᒪᓇᐅᓯᒪᓂᖏᓐᓄᑦ ᐅᓄᕐᓯᒋᐊᕐᑎᑕᐅᒋᐊᖅ, ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᐊᑲᐅᖏᓕᐅᕈᑎᖃᐃᓐᓇᐅᔭᕐᓯᒪᑎᓪᓗᒋᑦ ᐃᖃᓪᓕᐊᕐᕕᐅᔪᓐᓇᕐᑐᓂ ᖃᑦᓯᓂᒃ ᐃᖃᓗᒍᓐᓇᕐᑎᑕᐅᕆᐊᖅ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐃᓱᒪᕗᑦ ᐋᖅᑭᒃᓱᐃᓯᒪᓂᒃᑯᑦ ᖃᑦᓯᓂᒃ ᐃᖃᓗᒍᓐᓇᕐᑐᒃᓴᐅᓂᕐᒧᑦ ᑲᑎᓪᓗᒋᑦ ᐅᓄᕐᓯᒋᐊᕐᓂᖏᒍᑦ 0A,ᒥ ᐊᒻᒪ 0B ᑲᔪᓯᖏᓐᓇᕐᑐᒃᓴᐅᓄᑦ, ᓵᕐᓗ 100%,ᓄᑦ ᐅᓄᕐᓯᒋᐊᕐᑎᑕᐅᒃᐸᑕ 0A,ᒥ ᓄᓇᕗᒻᒥ ᐊᒻᒪ 90%,ᒧᑦ ᐅᓄᕐᓯᒋᐊᕐᑕᐅᒃᐸᑕ 0B,ᒥ ᓄᓇᕗᒻᒧᑦ, ᐊᒥᐊᒃᑯᖏᑦ 10% ᓄᓇᕕᒻᒧᑦ. ᑕᒪᓐᓇ ᐊᔾᔨᒋᖏᑦᑐᖅ ᐃᖃᓪᓕᐊᕈᓐᓇᕐᓂᐅᑉ ᐊᓯᖏᓐᓂ ᐅᑭᐅᕐᑕᕐᑐᒥ ᐃᒪᕐᓂ.

ᐊᒻᒪ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐃᓱᒪᔪᑦ ᐊᑐᓕᕐᑕᐅᖁᔨᓪᓗᑎᒃ ᐅᑯᓂᖓ: ᑖᑦᓯᒧᖓ 5%,ᒧᑦ ᐅᓄᕐᓯᒋᐊᕐᑎᑦᓯᓂᒃᑯᑦ 0A/0B,ᓂᒃ ᑐᕐᐸᓐᓂᒃ ᑲᑎᓪᓗᒋᑦ 2021,ᒥ ᐊᒻᒪ 2022,ᒥ; ᑖᓐᓇ 50/50 ᐊᕕᓪᓗᓂᐅᒃ 0A,ᒧᑦ ᐊᒻᒪ 0B,ᒧᑦ; ᐊᒻᒪ ᓄᓇᕗᒻᒥ ᑐᓂᔭᐅᓗᑎᒃ 100%,ᖏᓐᓂᒃ ᐅᑯᓇᓐᖓᑦ 0A ᐊᒻᒪ 90% ᐅᕙᓐᖓᑦ 0B ᐅᓄᕐᓯᒋᐊᕐᑎᑕᐅᓂᖏᑎᒍᑦ. ᖃᐅᔨᒪᑎᑕᐅᓚᖓ ᐊᐱᖅᑯᑎᒃᓴᖃᕐᓯ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᖃᓄᐃᓕᖓᓂᐊᓄᑦ ᑕᒪᒃᑯᓄᖓ ᐱᒻᒪᕆᐅᔪᓄᑦ.

ᑎᑎᕋᖅᑐᖅ,

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c.c. ᑐᕈᕗᑦ ᑕᐃᓗᖅ, Trevor Taylor, ᑲᑎᒪᑎᑦᓯᔨ, ᐃᖃᓗᒐᓂᕐᒧᑦ ᐃᑲᔪᕐᓂᕐᒧᑦ ᑲᑎᒪᔩᕈᓯᓄᑦ
ᓴᑭᐊᓯ ᓴᐅᓪᓗᐊᐱᒃ, Sakiasie Sowdlooapik, ᐃᖃᓗᒐᓂᕐᒧᑦ ᐃᒃᓯᕙᐅᑕᖅ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᒐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᓄᑦ
ᔦᐃᐱᑎ ᐊᕿᐊᒍᖅ, Jaypetee Akeeagok, ᑲᑎᒪᔨ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᒐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᓄᑦ
ᑕᐃᕕᑦ ᐊᓕᒃᓵᓐᑐᖅ, David Alexander, ᑲᑎᒪᔨ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᒐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᓄᑦ
ᔨᐊᕆ ᕗᐊᕐᑦ, Jerry Ward, ᑲᑎᒪᔨ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᒐᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᓄᑦ

ᑐᓂᔭᐅᔪᑦ ᐅᓂᒃᑲ
ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔩᑦᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ
ᓯᑎᐱᕆ 2020

ᐆᒣᖓ

ᑐᑭᓯᒋᐊᑭᐅᑦ: X ᐃᓱᒪᓕᐅᓂᕐᒧᑦ:

ᐱᔾᔪᑎᖓ: ᐃᒪᕐᓂᐊᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ – ᐊᐅᓚᓂᖕᒋᓐᓄᑦ ᑐᑭᓯᒋᐊᑭᐅᑦ

ᑐᑭᓯᒋᐊᑭᐅᑦ:

ᐃᖅᑲᓇᐃᔭᖅᑎᖃᕐᓂᖅ:

- ᓕᐅᑎ ᑕᐅᓪ ᓄᖅᑲᕙᓚᐅᖅᑐᖅ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂᑦ ᑲᓇᑕᒥ (DFO) ᐱᒋᐊᕐᓂᖕᒋᓐᓂ ᒪᐃ, ᐊᒻᒪ ᐃᓐᓄᑦᑕᐅᓯᒪᑲᐃᓐᓇᓂᐊᖅᑐᖅ ᑭᐊᕙᓐ ᐱᐅᓪᒧᑦ.
- ᔫᐅᓇᒪᐃᔭ ᔭᖕ ᐊᖏᖅᓯᓯᒪᔪᖅ ᓄᑖᒥ ᐃᖅᑲᓇᐃᔮᒥᑦ ᖃᐅᔨᓴᖅᑐᓕᕆᕙᒻᒥᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓂᑦ. ᓯᕗᓂᒃᓴᒥᑦ ᖃᐅᔨᒋᐊᑭᑕᐅᔪᑦ ᐱᔾᔪᑎᖃᖅᑐᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑐᕌᖓᑎᑕᐅᔭᕆᐊᓖᑦ ᐊᓃᑲ ᐸᐃᓱᒃ.

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ:

1) ᑑᓚᓖᑦ:

- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐱᕙᓪᓕᐊᑎᑦᑎᔪᑦ ᐊᐅᓚᑦᑎᓂᕐᒥᑦ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓂᑦ/ᑲᑎᒪᔨᖕᒋᓐᓂᑦ (HTOs/HTAs) 2019/20 ᑑᓚᓕᓐᓄᑦ ᓂᕈᖓᑖᑦ ᐅᑎᖅᑎᑕᐅᓂᖕᒋᑦ ᐊᒻᒪ ᓇᓗᓇᔭᐃᓂᖕᒋᑦ ᕿᓚᓗᒐᖅᑕᐅᕙᑦᑐᓂᑦ ᑭᓪᓕᓯᓂᐊᖅᑕᐅᓯᒪᔪᓂᑦ. ᑖᓐᓇ ᐱᖃᓯᐅᔾᔨᔪᖅ ᐋᖅᑭᑦᑕᐅᓂᖓ ᐊᖏᓂᖓ ᐊᕿᒍᒧᑦ ᓅᑦᑕᐅᔪᑦ ᓂᕈᖓᑖᑦ ᐊᑐᐃᓐᓇᐅᔪᑦ.
- 2020/21 ᑑᓚᓐᓂᑦ ᕿᓚᓗᒐᕐᓯᐊᕐᓇᖅ ᐱᒋᐊᖅᓯᒪᓕᖅᑐᖅ ᐊᒻᒪ ᑎᓴᒪᓕᒫᑦ ᓄᓇᓖᑦ ᓂᕈᖓᑖᕐᑲᖅᑐᑦ ᐊᙳᓇᓱᒋᐊᕐᓂᖕᒋᑦ ᐱᒋᐊᓚᐅᖅᑐᑦ ᐊᐅᔭᒥ ᕿᓚᓗᒐᕐᓯᐊᕐᓇᖅ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑐᓴᕋᖅᓯᒪᔪᑦ ᐃᓱᒪᓕᐅᓂᕐᒧᑦ ᓄᓇᓕᓐᓄᑦ ᐃᓕᐅᖅᑲᖅᑕᐅᔪᓄᑦ ᐊᕙᑦᑐᖅᑐᖅᓯᒪᔪᓂᑦ ᐆᒪᔪᓕᕆᔩᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓂᑦ ᐱᖃᓯᐅᑎᓪᓗᑎ ᐊᕿᒍᒧᑦ ᓅᑦᑕᐅᔪᑦ ᐊᒥᓲᓂᖕᒋᑦ, ᑑᓚᓕᓐᓄᑦ ᓂᕈᖓᑖᑦ ᐊᒻᒪ ᑐᑭᓯᒋᐊᑭᐅᑦ 2020/21 ᕿᓚᓗᒐᕐᓯᐊᕐᓇᒧᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᓯᒪᔪᑦ ᐊᒥᓲᓂᖅᓴᓄᑦ ᓄᓇᓕᓐᓄᑦ. ᐃᓕᐅᖅᑲᖅᑕᐅᓂᖕᒋᓐᓄᑦ ᐃᓱᒪᓕᐅᓂᕐᒧᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑎᓪᓗᒍ, ᐊᒥᐊᒃᑯᖕᒋᑦ 2020/21 ᓂᕈᖓᑖᑦ ᑐᓂᐅᖅᑲᖅᑕᐅᓂᐊᖅᑦ ᓄᓇᓕᓄᑦ.
- ᕿᑭᖅᑖᓗᒻᒥ ᑑᓚᓐᓂᑦ ᖃᐅᔨᓴᓂᕐᒧᑦ ᑐᓯᕋᖑᔪᖅ ᐊᐅᔭᖓᓂ 2020 ᓄᖅᑲᖅᑎᑕᐅᓚᐅᖅᑐᖅ ᐱᔾᔪᑎᒋᓪᓗᒍ ᓄᕙᒡᔪᐊᕐᓇᖅ–19 ᐋᓐᓂᐊᕐᓇᖅ, ᑖᓐᓇ ᖃᐅᔨᓴᕐᓂᐅᔪᖅ ᐱᓕᕆᐊᓪᓗᐊᑕᖃᕋᔭᓚᐅᖅᑐᑦ ᐱᔭᐅᓂᖕᒋᓐᓄᑦ ᐊᒥᓲᓂᖕᒋᓐᓄᑦ ᒥᔅᓴᐅᓴᑦᑕᐅᔪᓂᑦ ᑑᓚᓖᑦ ᑲᓇᓐᓇᖓᓂ ᕿᑭᖅᑖᓗᒻᒥ, ᖃᐅᕐᓇᖅ ᐊᒻᒪ ᑲᖏᖅᖢᒃ ᐃᒪᖓᓂ ᑑᓚᓕᖕᒋᓐᔾᓂᑦ. ᒫᓐᓇᐅᔪᒥᑦ ᓇᓗᓇᖅᑐᖅ ᖃᖓᒃᑯᑦ ᖃᐅᔨᓴᕿᓐᓇᑰᕐᒪᖔᑕ ᑖᒃᑯᓂᖓ ᐊᐅᓚᑦᑎᕙᒋᔭᐅᔪᓂᑦ.

2) ᐊᐃᕚᑦ:

- ᔪᓚᐃᒥ 2020, ᒥᓂᔅᑕ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ ᐊᖏᖅᓯᓚᐅᖅᑐᖅ ᒪᕿᑲᓐᓃᓐᓂᒃ ᐊᐃᕝᕙᓯᑐᐃᓐᓇᓂᕐᒧᑦ 2020-ᒧᑦ, ᐃᓚᒋᓪᓗᒋᑦ 76 ᐊᖏᖅᑕᐅᓚᐅᖅᑐᑦ ᕚᕗᐊᕆ (ᓴᓪᓖᑦ 32, ᓴᓂᕋᔭᒃ 15, ᐃᒡᓗᓕᒃ 25, ᒥᑦᑎᒪᑕᓕᒃ 4, ᐊᒻᒪᓗ 2 ᐊᕐᕕᐊᓄᑦ).

- ᐊᐃᖅᕚᓯᑐᐃᓐᓇᓂᕐᒧᑦ ᐊᐅᓪᓚᕈᔾᔨᔾᔪᑦ ᖃᐅᔨᒃᑲᖅᑕᐅᓯᒪᔪᑦ 2020 ᐊᐃᖅᕚᓯᑐᐃᓐᓇᓂᕐᒧᑦ ᐃᓕᐅᖅᑲᖅᐅᔪᑦ ᐊᖏᖅᑕᐅᓂᖏᓐᓄᑦ, ᐃᓚᖏᑦ ᐊᐅᓪᓚᕈᔾᔨᔾᔪᑦ ᖃᐅᔨᑎᑦᑎᓯᒪᔪᑦ ᐃᒪᕐᒥᐊᑕᓕᕆᔨᒃᑯᓐᓂᑦ ᐊᐃᖅᕚᓯᑐᐃᓐᓇᖅᑐᕐᑳᔾᔮᓇᓂ ᑕᒪᑐᒪᓂ ᐊᐅᔾᒥ ᐱᔾᔪᑎᒋᓪᓗᒍ ᓄᕙᒡᔪᐊᕐᓇᖅ–19 ᐋᓐᓂᐊᕐᓇᖅ.
- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᔪᓯᑎᑦᑎᓂᐊᖅᑐᑦ ᖃᐅᔨᓯᐊᒃᑲᓂᓂᕐᒥᑦ ᐊᐅᓪᓚᕈᔾᔨᔨᓂᑦ ᐃᓂᔅᓕᐅᖅᓯᒪᔪᓄᑦ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ 2020 ᐊᒻᒪ ᑐᓂᐅᖅᑲᐃᓂᐊᖅᑐᑦ ᐊᐃᑉᕚᓯᑐᐃᓐᓇᓂᕐᒧᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᐱᔭᐅᔭᕆᐊᕐᑲᕈᑎ, ᐱᖃᓯᐅᔾᔨᔪᑦ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᐅᓂᒃᑳᓄᑦ ᑕᑕᑎᕆᐊᓕᒃ, ᖃᐅᔨᓴᐅᑎᔅᓴᐃᑦ, ᐊᒻᒪ ᓚᐃᓴᓐᔫᑦ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐱᔭᕆᐊᕐᑲᔾᔮᖏᑦᑐᑦ ᓄᕙᒡᔪᐊᕐᓇᖅ-19-ᒧᑦ ᐊᑦᑕᓇᐃᖅᓯᒪᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ ᑖᒃᑯᐊ ᐋᖅᕚᓯᑐᐃᓐᓇᓂᕐᒧᑦ ᓚᐃᓴᓐᔫᑦ, ᑭᓯᐊᓂ ᐅᖃᐅᔾᔭᐅᓂᐊᖅᑐᑦ ᐊᐅᓪᓚᕈᔾᔨᔾᔪᑦ ᒪᓕᓐᓂᕐᑲᕐᓗᑎ ᐅᖃᐅᑎᒋᐊᕈᑎᒥᑦ/ᐱᑕᕐᑲᓇᐊᖅᑲᖅᑎᑕᐅᔪᓂᑦ ᓄᓇᕗᑦᒥ ᐊᖏᔪᖅᑳᖓᓐᓄᑦ ᐋᓐᓂᐊᖅᑐᓕᕆᓂᕐᒧᑦ.
- ᓄᓇᓕᒻᒧᑦ ᐊᐅᓚᑕᐅᔪᑦ ᐊᐃᖅᕚᑦᑕᐅᔪᓂᑦ ᖃᐅᔨᓴᕐᑲᑦᑕᕐᓂᕐᒧᑦ ᐱᓕᕆᐊᑦ ᐊᐃᕙᕐᓄᑦ ᑲᔪᕊᓐᓇᕐᓂᕐᑲᖅᑐᑦ ᓄᓇᓕᓐᓂᑦ ᓴᓂᕋᔭᒃ ᐊᒻᒪ ᓴᓪᓖᑦ, ᐃᖅᑲᓇᐃᔭᖅᑎᑦᑎᓂᕐᒥᑦ ᓄᓇᓕᒻᒥ ᐊᐅᓚᑦᑎᔨᓂᑦ ᐱᕗᓪᓕᐊᔭᐅᓪᓗᓂ.

3) ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᕿᓚᓗᒐᖏᑦ:

- ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᕿᓚᓗᒐᖏᓐᓄᑦ ᕿᓚᓗᒐᓕᕆᑦ ᑲᑎᒋᐊᕐᑲᓚᐅᖅᑐᑦ ᒪᐃ 2020 ᑭᓯᐊᓂ ᐱᔾᔪᑎᒋᓪᓗᒍ ᓄᕙᒡᔪᐊᕐᓇᖅ-19 ᑖᓐᓇ ᑲᑎᒪᓂᐅᔪᖅ ᓄᖅᑲᖅᑎᑕᐅᓚᐅᖅᑐᖅ. ᕿᓚᓗᒐᓕᕆᔩᑦ ᐱᓕᕆᕐᑲᑎᕐᑲᐃᓐᓇᓂᐊᖅᑐᑦ ᑎᑎᖅᑲᑎᒍᑦ ᖃᕋᓴᐅᔭᒃᑯᑦ ᐊᒻᒪ ᑲᑎᒪᓂᕐᑲᕈᒪᓛᖅᑐᑦ ᖃᕋᓴᐅᔭᒃᑯᑦ ᐅᑯᑎᒍᓇ Zoom ᑎᑭᓚᐅᖅᑎᓐᓇᒍ 2021.
- ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᕿᓚᓗᒐᖏᑦ ᑰᑦᑲᖅᑐᑦ 41 ᕿᓚᓗᒐᐃᑦ ᐊᑕᐅᓯᕐᒧᑦ ᐊᕐᕋᒍᒧᑦ ᕿᓚᓗᒐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᓄᓐᓄᑦ ᐸᓐᓂᖅᑑᒥᑦ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᖃᐅᔨᒃᑲᖅᑕᐅᓚᐅᖅᑐᑦ ᔪᓇᐃ 7–ᒥ ᐸᓐᓂᖅᑑᒥ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᕐᑲᑎᒌᖏᓐᓄᑦ ᑰᑦᑕᖓ ᑎᑭᑕᐅᓯᒪᓕᖅᑐᓂ ᕿᓚᓗᒐᖅᑕᐅᔪᓐᓇᖅᑐᓂᑦ 2020-ᒥ.

4) ᐊᕐᕖᑦ

- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑐᓂᓯᓚᐅᖅᑐᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᐃᖃᓗᒐᓱᒃᓂᕐᒧᑦ ᓚᐃᓴᓐᓯᓂᑦ ᓴᓪᓕᓄᑦ ᔪᓚᐃ 10 ᐊᒻᒪ ᓴᓂᕋᔭᒃ ᔪᓚᐃ24, 2020 ᐊᕐᕙᓯᐊᓂᕐᒧᑦ. ᑖᒃᑯᐊ ᓄᓇᓖᑦ ᖃᐅᔨᑎᑕᐅᓯᒪᔪᑦ ᐊᐅᓚᑦᑎᓗᑎ ᖃᐅᔨᓴᕋᔅᓴᓂᑦ ᓄᐊᑦᑎᓗᑎ ᐊᕐᕖᑦᑕᐅᔪᓂᑦ. ᕿᑭᕐᑕᖅᔪᐊᖅ ᐊᖏᖅᑕᐅᓯᒪᔪᑦ ᐊᕐᕙᓯᐊᓂᕐᒧᑦ ᑭᓯᐊᓂ ᐊᕐᕙᓯᐊᕈᒪᓂᕐᑲᕈᓐᓃᖅᑐᑦ, ᐱᔾᔪᑎᖃᖅᑐᑎᑦ ᓄᕙᒡᔪᐊᕐᓇᖅ–19ᒧᑦ ᐃᓱᒫᓘᑕᐅᔪᓂᑦ.
- ᐃᑲᔪᖅᑕᐅᒍᓂ ᐊᐅᓚᑦᑎᕐᑲᑎᖏᓐᓄᑦ ᐊᒻᒪ ᐊᕐᕙᓕᕆᔩᑦ ᐃᓚᒋᔭᐅᔪᑦ, ᖃᕋᓴᐅᔭᒃᑯᑦ ᐊᑐᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᓄᓇᓕᐅᔪᖅ ᐱᕐᑲᑕᐅᑎᑕᐅᓗᓂ ᐱᕙᓪᓕᐊᑎᑕᐅᓂᖓᓄ ᐊᕐᕖᑦ ᐃᓚᓕᐅᔾᔭᐅᓂᖏᓐᓄᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᐸᕐᓇᐅᒻᒥᑦ (IFMP). ᒦᓐᓇᐅᔪᒥᑦ, ᐃᓄᑦᑎᒍᑦ ᑲᑎᒪᓂᐅᔪᑦ ᐊᔪᓇᖅᑐᑦ ᐊᐅᓪᓚᓂᕐᒧᑦ ᑭᓪᓕᕐᑲᖅᑎᑕᐅᔪᓄᑦ ᓄᓇᕗᒻᒥ ᐃᓂᖓᓃᓐᓂᐊᖅᑐᑦ ᑎᑭᑲᓯᐊᕐᓂᖓᓄ ᐋᕐᒌᓯ 2020.

ᐃᖃᓗᐃᑦ:

1) ᑐᓵᖅᑎᑦᑎᒍᑕᐅᓯᒪᔪᑦ ᐃᖃᓗᑦᑕᐅᔪᑦ
   - 2019-20–ᒧᑦ ᐃᖃᓗᓐᓂᑦ ᐃᖃᓗᓕᕆᓂᖅ, ᑲᑎᑦᑐᒋᑦ 23,673 kg ᑐᓵᖅᑎᑦᑎᒍᑕᐅᓚᐅᖅᑐᑦ ᖃᓗᑦᑕᐅᔪᑦ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᓐᓄᑦ.
2) ᐸᓐᓂᖅᑑᒥ ᐃᖃᓗᓕᕆᓂᖅ

- ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᖃᐅᔨᒃᑲᖅᑕᐅᓚᐅᖅᑐᑦ ᐸᓐᓂᖅᑑᒥ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓄᑦ ᐸᓐᓂᖅᑑᑉ ᐃᑭᖕᒐᓂ ᐃᖃᓗᓐᓂᑦ ᐊᐅᔭᒃᑯᑦ ᐃᖃᓗᒐᓱᓐᓂᖅ ᒪᑐᐃᕋᔭᖅᑐᓂ ᐋᒡᒌᓯ 3. ᓚᐃᓴᓐᓰᑦ ᐊᒻᒪ ᐃᖃᓗᒐᓱᐊᖅᑎᓄᑦ ᐊᑐᖅᑕᐅᓂᐊᖅᑐᑦ ᑐᓂᔭᐅᓚᐅᖅᑐᑦ ᐊᒻᒪ ᐊᐅᓪᓚᖅᑎᑕᐅᓪᓗᑎ ᐸᓐᓂᖅᑑᒧᑦ ᓯᕗᓂᐊᒍ ᒪᑐᐃᕐᕕᖓᑕ ᐅᓪᓗᖓᓂ.

3) ᖃᐅᔨᓴᓂᕐᒧᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ
   - ᖃᐅᔨᓴᓂᕐᒧᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᑕᒪᒃᑭᓐᓂ ᕿᑭᖅᑕᖅᔪᐊᖅ ᐊᒻᒪ ᒥᑦᑎᒪᑕᓕᒃ ᐱᔭᕇᖅᓯᓯᒪᔪᑦ ᐱᑕᖃᕆᐊᖃᖅᑎᑕᐅᔪᓂᑦ ᑕᓪᓕᒪᓂᑦ ᐊᕐᕌᒍᓂᑦ ᓄᐊᑦᑎᓂᕐᒧᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᐊᑐᖅᑕᐅᒋᐊᓕᒻᒥᑦ. ᐃᖃᓗᐃᑦ ᖃᐅᔨᓴᔅᓴᐃᑦ ᐊᒻᒪ ᐃᖃᓗᑦᑕᐅᔪᑦ ᐊᑐᓂᒡᒍᑕᐅᔪᓂᑦ ᐱᓇᓱᐊᕐᓂᖕᒋᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ ᑖᒃᑯᓂᖓ ᐃᖃᓗᓕᕆᓂᐅᔪᓂᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᕗᐃᓂᐸᐃᒡᒧᑦ ᖃᐅᔨᓴᖅᑕᐅᓗᑎᑦ.
   - ᐊᓯᖕᒋᑦ ᖃᐅᔨᓴᓂᕐᒧᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᑲᔪᓯᕗᓪᓚᐊᖕᒋᓐᓇᖅᑐᑦ ᐃᖃᓗᖕᓂ ᐊᒻᒪ ᐅᖅᓱᖅᑑᖅ.

<u>ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖕᒋᑦ (ᓇᓖᕐᓇᐃᑉ):</u>

1) ᐸᓐᓂᖅᑑᑉ ᐃᑭᖕᒐᓂ ᖃᓕᕋᓕᓐᓂᑦ ᐊᐅᓚᑦᑎᕕᐅᔪᖅ (CSTMA)
   - ᑲᓇᑕᒥ ᖃᐅᔨᓴᓂᕐᒧᑦ ᐅᖃᐅᔾᔨᒋᐊᓂᕐᒧᑦ ᑎᑎᕋᕐᕕᖓ (CSAS) ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᕿᒥᕐᕈᓂᕐᒧᑦ ᑲᑎᒪᓂᖃᓚᐅᖅᑐᑦ ᓅᕕᐱᕆ 2019. ᖃᐅᔨᓴᓂᕐᒧᑦ ᐅᖃᐅᔾᔨᒋᐊᓂᕐᒧᑦ ᐅᓂᒃᑳᑦ ᓱᓕ ᑭᖑᓪᓕᖅᐹᒥ ᐋᖅᑭᑦᑕᐅᓯᒪᖕᒋᑦᑐᖅ, ᖃᓕᕋᓖᑦ ᖃᓄᐃᑦᑑᔭᖕᒋᑦᑐᑦ. ᖁᕝᕙᓇᐊᖅᑕᐅᓂᖕᒋᑦ ᑲᑎᑦᑐᒋᑦ ᖃᓕᕋᓕᑦᑕᐅᔪᓐᓇᖅᑐᑦ (TAH) ᐱᔭᐅᖁᔭᐅᓚᐅᖕᒋᑦᑐᖅ CSAS ᑲᑎᒪᓂᖃᖅᑎᓪᓗᒋᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᑰᑕᓖᖓ 500ᑕᓐᔅ ᐱᔭᐅᓯᒪᔪᑐᐊᑦ ᒪᕿᐊᑎᖅᑐᑎᑦ ᑖᔅᓯᒥᖓ ᐃᖃᓗᓕᕆᓂᐅᔪᒥᑦ (2018 ᐊᒻᒪ 2020) ᐊᒻᒪ ᑕᐃᒪᐃᓐᓂᖓᓄᑦ ᒪᑭᒪᑎᑦᓯᐅᓂᖕᒋᑦ ᐅᑯᓄᖓ ᑲᑎᑦᑐᒋᑦ ᖃᓕᕋᓕᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᓱᓕ ᓴᖅᑭᖅᑎᑕᐅᓯᒪᖕᒋᑦᑐᖅ. ᐋᖅᑭᑦᑕᐅᓯᒪᓕᕈᓂ, CSAS ᐅᓂᒃᑳᑦ ᐃᓄᓐᓄᑦ ᐊᑐᐃᓐᓇᐅᓂᐊᖅᑐᑦ.
   - 2020 ᖃᓕᕋᓕᓐᓂᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᖅ ᐸᓐᓂᖅᑑᑉ ᐃᑭᖕᒐᓂ ᒪᑐᐃᓚᐅᖅᑐᖅ ᔫᓐᓄᐊᕆ. ᐊᑕᖕᒋᖅᑐᒍ 500ᑕᓐᔅ ᑲᑎᑦᑐᒋᑦ ᖃᓕᕋᓕᑦᑕᐅᔪᓐᓇᖅᑐᑦ ᖃᓕᕋᓕᑦᑕᐅᓚᐅᖅᑐᑦ ᓄᖑᖕᒋᓐᓂ ᐃᐳᕈ (504.63 ᑕᓐᔅᐅᖓᑕᐅᔾᔭᓂᖃᖅᑎᑦᑎᔪᖅ ᓯᑯᒃᑯᑦ ᖃᓕᕋᓕᓐᓂᐊᑎᓪᓗᒋ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐱᓚᐅᖅᑐᑦ ᐸᓐᓂᖅᑑᒥ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓂᑦ ᐃᑲᔪᖅᑐᐃᓂᕋᖅᑐᑎᑦ ᐊᕐᕌᒍᒧᑦ ᓅᑦᑕᐅᓗᑎ ᖃᓕᕋᓕᑦᑕᐅᓯᒪᖕᒋᑦᑐᑦ 2019–ᒥᑦ CSTMA–ᒥᑦ. ᑭᖑᓂᐊᒍᑦ *ᑰᑕᖓ ᐊᖀᒍᒧ ᓅᑦᑕᐅᓂᖓ ᒪᓕᑦᑕᐅᔭᕆᐊᓖᑦ ᐊᑦᓛᓐᑎᒃᒧᑦ ᑲᓇᑕ* ᐊᒻᒪ ᐃᓚᒋᓕᖅᑎᑕᐅᓂᖓ 4.63 ᑕᓐᔅ ᐃᖃᓗᑦᑕᐅᓗᐊᖅᓯᒪᔪᓄᑦ 2020-ᒧᑦ, ᓅᑦᑕᐅᔪᑦ ᐊᑐᐃᓐᓇᐅᔪᑦ ᐃᖃᓗᑦᑕᐅᔪᓐᓇᖅᑐᑎᑦ ᐅᓇᐅᓕᓚᐅᖅᑐᖅ 70.37 ᑕᓐᔅ. ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᐊᖏᖅᓯᓚᐅᖅᑐᑦ ᐊᖀᒍᒧᑦ ᓅᑦᑕᐅᔪᓄᑦ ᑎᑎᖅᑲᑎᒍᑦ ᐸᓐᓂᖅᑑᒥ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᓐᓄᑦ ᐅᓇᐅᑎᓪᓗᒍ ᔪᓚᐃ 7.

ᑎᑎᕋᖅᑐᖅ: ᐃᖃᓗᐃᑦ ᐊᓪᓚᕕᖓ – ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ

ᐅᓪᓗᖓ: ᐋᒡᒌᓯ 07, 2020

ᑲᑐᑎᓪᓗᑎ ᑐᓂᔭᐅᔪᑦ ᐅᑴᖓ
ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᐊᒻᒪ
ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ

ᑐᑭᓯᒋᐊᒃᑲᓐᓂᓂᕐᒧᑦ: X **ᐃᓱᒪᓕᐅᓂᕐᒧᑦ:**

ᐱᔾᔪᑎᖓ: ᑐᕐᑭᓯᒋᐊᕈᑏᑦ ᖃᓄᐃᓕᖓᓕᕐᓂᖓᓄ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖅᑲᓗᓕᕆᓂᖅ ᐊᑖᓂ ᒥᐊᓕᒐᒃᑯᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᓴᐳᒻᒥᔭᐅᓂᖏᓐᓄᑦ ᐱᖁᔭᖅ (MMPA) ᑎᑎᕋᐅᖅᑲᖅᑐᓄᑦ ᐃᓚᒍᑕᖏᑦ

ᖃᓄᐃᓕᐅᕐᓂᐅᓯᒪᔪᑦ:

ᒥᐊᓕᒐᒃᑯᑦ ᐊᑐᓕᖅᑎᑦᑎᕙᓪᓕᐊᔪᑦ ᒥᐊᓕᒐᒃᑯᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᓴᐳᒻᒥᔭᐅᓂᖏᓐᓄᑦ ᐱᖁᔭᕐᒥᑦ ᑎᑎᕋᐅᖅᑲᖅᑐᓄᑦ ᐃᓚᒍᑕᖏᑦ ᒪᓕᒐᐃᑦ. ᐊᑐᓕᖅᑎᑕᐅᑐᐊᕈᓂ, ᑖᓐᓇ ᒪᓕᒐᖅᓇᓗᓇᐃᖅᓯᔪᖅ ᑳᑯᐊ ᒥᐊᓕᒐᒃᑯᑦ ᐊᖏᖅᓯᔪᑐᐊᕐᒍᓂᐊᖅᑐᑦ ᑎᑎᕋᐅᖅᑲᖅᑐᓂᑦ ᐃᖅᑲᓐᓂᑦ ᐊᒻᒪ ᐃᖅᑲᓗᒥᓂᕐᓂᑦ ᓯᓚᑖᓃᖓᖅᑐᓂᑦ ᓄᓇᓕᕐᔪᐊᓃᖓᖅᑐᓂᑦ ᐊᖏᖅᓯᓯᒪᔪᑦ ᐊᐅᓚᑦᑎᒋᐊᑭᑎᓂᑦ ᐊᑦᑎᓪᓕᒋᐊᕐᓗᒋᒃ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔦᑦ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᑦ ᐆᒪᔪᖅᑕᐅᔪᑦ. ᑳᑯᐊ ᐊᐅᓚᑦᑎᒋᐊᑭᑎᑦ ᐊᔾᔨᒦᓐᖑᐊᖅᑎᒐᔅᓴᐅᔭᓇᐊᓖᑦ ᑕᐃᒃᑯᓇᖓ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᐊᑐᖅᑕᐅᔪᓄᑦ, ᐊᒻᒪ ᐱᔪᓐᓇᖅᑎᑕᐅᖏᓐᓂᖓ ᑐᕐᑯᑎᑐᐃᓐᓇᕐᓂᖓᓄᑦ ᐅᕙᓘᓐᓃᑦ ᐋᓐᓂᕐᔪᐊᕐᓗᓂ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔦᑦ ᑮᓇᐅᔭᓕᐅᕋᓱᐊᓂᕐᒧᑦ ᐃᖅᑲᓗᓯᐊᓂᕐᒧᑦ ᐊᐅᓚᓂᖅᑲᖅᑎᓪᓗᒋᑦ. ᑎᑎᕋᐅᓂᖏᓐᓄᑦ ᐃᓚᒍᑕᖏᑦ ᒪᓕᒐᐃᑦ ᑭᖑᓪᓕᖅᐹᒥᑦ ᐋᖅᑭᑦᑕᐅᓚᐅᖅᑐᖅ 2016 ᐊᒻᒪ ᐱᖃᓯᐅᔾᔨᓚᐅᖅᑯᖅ 5-ᐊᕐᕌᒍᓄᑦ ᐱᔭᕇᖅᑕᐅᒃᑲᐃᓐᓇᖅᑐᓂᑦ (ᐃᓱᓕᓐᓂᖅᑲᖅᑐᖅ ᔮᓄᐊᕆ 1, 2022) ᐃᖅᑲᓗᓯᐅᖅᑲᖅᑐᑦ ᓄᓇᓕᕐᔪᐊᑦ ᓴᖅᑭᑦᑎᔪᓐᓇᓂᐊᕐᒪᑕ ᐅᕙᓘᓐᓃᑦ ᐱᐅᓯᑎᕆᐊᕐᒥᑦ ᓄᓇᓕᕐᔪᐊᖏᓐᓂᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᓐᓄᑦ ᐱᓕᕆᐊᑦ.

ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᓴᐳᒻᒥᔭᐅᓂᖏᓐᓄᑦ ᐱᖁᔭᖅ ᐱᒻᒪᕆᐊᓂᖓ ᐊᐅᓚᑕᐅᔪᖅ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ (NOAA). 2016–ᒥᓂᑦ, ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᓵᖅᑭᑦᑎᓯᒪᔪᑦ ᒪᕐᕉᓐᓂᒃ ᑎᑎᕋᖅᑕᐅᓯᒪᓪᓚᕆᒃᓯᒪᔪᓂᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᑦ (LOFF), ᓇᓗᓇᐃᖅᓯᔪᑦ ᐃᖅᑲᓗᓕᕆᓂᓕᒫᔪᑦ ᐊᑐᓂ ᐃᖅᑲᓗᓯᐅᖅᑲᖅᑐᓄᑦ ᓄᓇᓕᕐᔪᐊᓄᑦ ᐊᐅᓪᓚᑎᑦᑎᖅᑲᖅᑐᑦ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ. ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᑦ ᐋᖅᑭᔅᓯᒪᓕᑎᑦᑎᔪᑦ ᑖᒃᑯᓂᖓ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᓂᑦ ᐅᑯᐊᖑᓪᓗᑎ "ᐱᔪᓐᓇᖅᑎᑕᐅᔪᖅ" ᐅᕙᓘᓐᓃᑦ "ᐊᐅᓪᓚᑎᑦᑎᓂᖅ", ᑐᙵᓂᖅᑲᖅᑐᑦ ᖃᓄᐃᓐᓂᕆᓂᐊᖅᑑᔭᖅᑕᖏᓐᓂ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔦᑦ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᑦ ᐆᒪᔪᖅᑕᐅᔪᑦ. ᒫᓯᒥᑦ, 2021, ᑲᓇᑕ ᐱᓇᓱᐊᕈᓯᐊᓕᒃ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᐊᔾᔨᒌᙳᐊᖅᑎᒋᔭᐅᔪᓄᑦ ᓇᓂᓴᐅᔪᓄᑦ (CF) ᐊᑐᓂ ᑖᒃᑯᓇᖓ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᓄᑦ. ᐃᓱᒪᓕᐅᕐᓂᖅᑳᖅᑐᑦ ᓄᕕᐱᕆ 30, 2021 ᐊᒻᒪ ᐊᖏᖅᑕᐅᔪᑦ ᐱᔪᓐᓇᖅᑎᑕᐅᔪᑦ 4 ᐊᕐᕌᒍᓄᑦ (ᑎᑎᕋᖅᓯᒪᔪᓂᑦ 1). ᑭᖑᓂᐊᒍᑦ ᔮᓄᐊᕆ 1, 2022, ᒥᐊᓕᒐᒃᑯᑦ ᐊᖏᖅᓯᔾᔪᒧᓐᓃᖅᑐᑦ ᑎᑎᕋᐅᔪᓂᑦ ᐃᖅᑲᓐᓂᑦ ᐊᒻᒪ ᐃᖅᑲᓗᒥᓂᕐᓂᑦ ᓄᓇᓕᕐᔪᐊᑦ ᓯᓚᑖᓃᖓᖅᑐᓂᑦ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᓂᑦ ᐱᑕᖃᙱᒃᑯᓂ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᐊᔾᔨᒌᙳᐊᖅᑎᒋᔭᐅᔪᓄᑦ ᓇᓂᓴᐅᔪᓄᑦ.

ᐃᓚᒋᓪᓗᓂᐅᒃ ᐊᑐᓕᖅᑎᑕᐅᕙᓪᓕᐊᓂᖓᓄᑦ, ᑲᓇᑕ ᑐᓂᓯᓚᐅᖅᑐᑦ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᐅᓂᒃᑳᓂᑦ ᐅᑯᓄᖓ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᓯᑎᐱᕆ 10, 2019. ᐅᑯᐊ ᐅᓂᒃᑳᑦ ᓇᓗᓇᐃᔭᐃᔪᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᐊᑐᓂ ᐃᖅᑲᓗᓕᕆᓂᕐᒧᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐅᕙᓂ ᑎᑎᕋᖅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᑦ, ᐱᖃᓯᐅᑎᓪᓗᑎ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᓐᓄᑦ ᐱᓕᕆᐊᑦ ᐊᑐᖅᑕᐅᔪᑦ ᐱᓗᐊᕐᔭᐃᖅᓯᒪᓗᑐ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔦᑦ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᑦ ᐆᒪᔪᖅᑕᐅᔪᑦ. ᑭᐅᔾᔪᑎᒋᓪᓗᒍ, ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᐅᖃᐅᔾᔨᒋᐊᑭᑦᑲᓚᐅᖅᑐᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᓂᑦ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᖃᓄᐃᓕᖓᓕᕐᓂᖓᓂᑦ ᐱᑕᖃᕐᓇᐊᖅᑲᖅᑎᑕᐅᔪᓐᓇᖅᑐᑦ ᐱᓗᓂ ᐊᔾᔨᒌᙳᐊᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᓇᓂᓴᐅᔪᓂᑦ.

ᒫᓐᓇᐅᔪᒃᑯᑦ ᖃᓄᐃᓐᓂᓯᐅᔪᑦ:

ᐅᓇᐅᑎᓪᓗᒍ ᒫᔾ 17, 2020 ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᓵᖅᑭᑦᑎᓚᐅᖅᑐᑦ 2020 ᑎᑎᕋᖅᑕᐅᓯᒪᓪᓚᕆᒃᓯᒪᔪᓂᑦ ᑎᑎᕋᖅᓯᒪᔪᓂᑦ ᓄᓇᓕᕐᔪᐊᖅ ᓯᓚᑖᓂ ᐃᖅᑲᓗᓕᕆᓂᐅᔪᑦ (LOFF) ᑐᑭᓯᒋᐊᑭᑦ ᐱᑕᖅᑎᑕᐅᓚᐅᖅᑐᑦ ᑲᓇᑕᒥ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᐅᓂᒃᑳᓂᑦ, ᐊᒻᒪ ᐱᖃᓯᐅᔾᔪᑦ ᐃᖅᑲᓗᓕᕆᓂᓕᒫᖑᔪᓂᑦ

ᐱᕐᑲᑕᓇᐊᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᐱᓗᑎ ᐊᔾᔨᒌᖕᒍᐊᖅᑎᒐᓭᐅᔪᓂᑦ ᓇᓂᔭᐅᔪᓂᑦ ᐅᓇᐅᓕᖅᑲᑦ 2021. ᐅᑭᐅᑕᖅᑐᒥ ᐃᖃᓗᓕᕆᓂᓕᒫᖑᔪᑦ ᐱᖁᓯᐅᔾᔭᐅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᐅᕗᓂ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ 1. ᑐᑭᒧᐊᖅᑎᑕᐅᓚᐅᖅᑎᓪᓗᒍ ᐅᕙᖕᖓᑦ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ, ᒥᑭᔪᓂᑦ ᐊᓯᔾᔩᓚᐅᖅᑐᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓄᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᖃᓄᐃᓘᕐᑲᑦᑕᐅᑎᓂᕐᑲᕈᓐᓇᖅᑐᑦ ᑖᒃᑯᓂᖓ ᐃᖃᓗᓕᕆᓂᐅᔪᓂᑦ. ᐊᓯᔾᔨᖅᑐᓕᒫᑦ ᑎᑎᕋᖅᑕᐃᓐᓇᐅᓚᐅᖅᑐᑦ ᐅᕗᓂ ᑎᑎᕋᖅᓯᒪᔪᓂᑦ 2. ᑭᖑᓪᓕᕐᒥᑦ ᐱᕕᔅᓴᖅᑳᓐᓂᓖᖅᑐᑦ ᑲᓇᑕ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑐᑭᓯᒋᐊᕈᑎᕐᑲᖅᑎᑦᑎᓗᑎ ᐅᑭᐊᔅᓵᖓᓂᐅᓂᐊᖅᑐᖅ 2020, ᐊᔾᔨᒌᖕᒍᐊᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᓇᓂᔭᐅᔪᓄᑦ ᑐᔅᓯᕋᐅᑎᓄᑦ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᒪᑐᐃᑏᖅᑐᖅ.

ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᑦ 1. ᐃᖃᓗᓕᕆᔾᔪᑎᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔾᔪᑎᒃᑯᑦ ᑲᓇᑕᒥ (ᐅᑭᐅᑕᖅᑐᒧᑦ) ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᐱᖁᓯᐅᔾᔭᐅᓯᒪᔪᑦ 2020 ᑎᑎᕋᖅᑕᐅᒋᐊᖕᖓᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ

ᐆᒪᔪᐃᑦ	ᐃᖃᓗᓕᕆᓂᖅ/ᓇᒦᓐᓂᖓ	ᐃᖃᓗᖓᓱᐊᕈᑏᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ	ᑎᑎᕋᖅᑕᐅᓂᖏᑦ
ᐃᖃᓗᐃᑦ	ᐃᖃᓗᑦᑑᑦᑎᐊᖅ	ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ, ᓄᓗᐊᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᐃᖃᓗᐃᑦ	ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓ	ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ, ᓄᓗᐊᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᐃᖃᓗᐃᑦ	ᓄᓇᕗᒻᒥ ᓇᔪᖅᑕᐅᔪᒥᑦᑐᖅ (NSA)	ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ, ᓄᓗᐊᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᐊᑯᑭᑦᑐᑦ ᕿᓕᕋᓕᖕᒋᑦ	ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᕿᓕᕋᓕᓂᑦ ᐊᐅᓚᑦᑎᕕᒋᔭᐅᔪᖅ (CSTMA)	ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ, ᐊᑦᑐᓈᓄᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᐊᑯᑭᑦᑐᑦ ᕿᓕᕋᓕᖕᒋᑦ	ᐅᐊᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐊᒡᒍᑐᖅᓯᒪᓂᖓ 0, 100 ᑕᓐᓴ	ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ; ᐃᖅᑲᖓᓄ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᐊᑯᑭᑦᑐᑦ ᕿᓕᕋᓕᖕᒋᑦ	ᐅᐊᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐊᒡᒍᑐᖅᓯᒪᓂᖓ 0	ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᐊᑯᑭᑦᑐᑦ ᕿᓕᕋᓕᖕᒋᑦ	ᐅᐊᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᑦ ᐊᒡᒍᑐᖅᓯᒪᓂᖓ 0	ᐃᖏᕋᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ
ᑭᖑᑉᐸᐃᑦ	ᑭᖑᑉᐸᓐᓄᑦ ᐊᐅᓚᑦᑎᕕᒋᔭᐅᔪᑦ (SMU) 0, 1, EAZ, WAZ	ᐃᖏᕋᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ	ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ

ᓄᓗᐊᓄ ᐃᖃᓗᓕᕆᓂᖅ ᐱᑕᖅᑲᖅᑎᓐᓇᒍ ᐃᒪᕐᒥ ᖃᐅᔨᓴᖅᑎ (ASO) ᐱᖁᓯᐅᔾᔭᐅᓂᖏᑦ ᓇᓗᓇᐃᖅᑕᐅᓚᐅᖅᑐᑦ ᖁᕝᕙᓯᑦᑐᒥᑦ ᐊᑦᑕᓇᕈᑎᕐᑲᖅᑐᑎᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᐆᒪᔪᓄᑦ ᖃᓄᐃᓘᕐᑲᑦᑕᐅᑎᓂᖏᓐᓄᑦ, ᑖᓐᓇ ᐱᖁᓯᐅᔨᔪᖅ ᐱᖓᓱᑦ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖃᓗᓐᓂᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ. ᐃᖃᓗᓕᕆᔾᔪᑎᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔾᔪᑎᒃᑯᑦ ᑲᓇᑕᒥ ᑐᔅᓯᕋᖅᓯᒪᔪᑦ ᖃᓄᐃᑦᑐᔅᒍᑕᐅᓗᓂ ᐃᖃᓗᓐᓂᑦ ᐃᖃᓗᖓᓱᓐᓂᐅᔪᑦ ᓄᓗᐊᓄᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᐱᔪᓐᓇᖅᑎᑕᐅᓗᑎ ᑐᓐᖓᓂᕐᑲᕐᓗᑎ ᐃᒪᕐᒥ ᓇᒦᓐᓂᕆᔾᔭᖏᓐᓇ, ᓂᖏᑕᐅᓯᒪᔪᑦ ᕿᓚᒥᐅᔪᒥᑦ, ᐃᒃᑲᑦᑐᓂ ᐃᑎᓂᖏᓐᓂᑦ, ᐊᒻᒪ ᐱᕕᔅᔅᐅᓂᖓᓂ ᓂᕿᔅᓴᓄᑦ ᐃᖃᓗᑦᑕᐅᔪᑦ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᓂᑦ ᐆᒪᔪᖅᑕᐅᔪᓂᑦ. ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᐊᖏᖅᓯᓚᐅᖏᑦᑐᑦ ᐊᓯᔾᔨᖅᑐᒥᑦ, ᐊᒻᒪ ᐊᑕᖏᖅᑐᒋᑦ ᐃᖃᓗᓐᓂᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᐊᑖᓃᖏᓐᓇᖅᑐᑦ ᐊᐅᓪᓚᖅᑎᑕᐅᔪᑦ. ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ ᓇᓗᓇᐃᖅᓯᓯᒪᔪᑦ ᑎᑎᕋᕝᕕᐅᔪᑦ ᑐᓴᖅᑎᑦᑎᓂᕐᒧᑦ ᒫᓇᐅᔪᒥᑦ ᓈᒻᒪᒋᔭᐅᔪᖅ, ᑭᓯᐊᓂ ᐱᑕᕐᑲᓇᐊᖅᑲᕐᓂᖓᓄᑦ ᖁᕝᕙᓇᐊᖅᑕᐅᓂᖏᓐᓄᑦ ᑐᓴᖅᑎᑦᑎᓂᕐᒧᑦ ᓂᓇᐅᒋᔭᐅᔪᑦ ᓯᕗᓂᔅᓴᒥᑦ.

2019–ᒥᑦ, ᐃᖃᓗᓕᕆᔾᔪᑎᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔾᔪᑎᒃᑯᑦ ᑲᓇᑕᒥ (DFO) ᓄᖅᑲᑎᑦᑎᓚᐅᖅᑐᑦ ᑐᓂᓯᓂᕐᒥᑦ ᐸᕝᕕᓇᖅᑐᓄᑦ ᓇᑦᑎᕐᓄᑦ ᓚᐃᓴᓐᓰᑦ, ᐊᐳᕈᑎᕐᑲᕐᒪᑕ ᐱᑕᕐᑲᓇᐊᖅᑲᖅᑎᑕᐅᔪᓂᑦ ᐱᔪᓐᓇᖅᑎᑕᐅᖏᑦᑐᓂᑦ ᐱᔫᖅᑯᒻᒥᑦ ᑐᕐᑯᑎᓂᕐᒥᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᑮᓇᐅᔭᓕᐅᕋᓱᓐᓂᒃᑯᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᓂᖏᓐᓄᑦ. ᐃᖃᓗᓕᕆᔾᔪᑎᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔾᔪᑎᒃᑯᑦ ᑲᓇᑕᒥ ᖃᐅᔨᓴᐃᓂᕐᑲᖅᑐᑦ ᐋᖅᑭᒋᐊᖅᑕᐅᔪᓐᓇᑐᐃᓐᓇᓇᐊᖅᑲᕐᓂᖓᓄᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᐆᒪᔪᓄᑦ ᒪᓕᑦᑕᐅᔭᓇᐊᓖᑦ (MMR) ᑕᑯᔅᓴᐅᑎᑦᑎᓗᑎ ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑐᕐᑯᑕᐅᓪᓗᓂ ᐲᖅᑕᐅᔭᓇᐊᖅᑲᖅᑐᓂ, ᓲᕐᓗ ᐊᑦᑕᓇᓪᓚᓇᓐᓂᐊᖅᑐᓂ ᐃᓄᒻᒧᑦ ᖃᓄᐃᖏᑎᐊᕐᓂᖓᓄᑦ ᐊᒻᒪ ᐊᑦᑕᓇᐃᖅᓯᒪᓂᕐᒧᑦ, ᑐᕐᑯᔪᖅ ᓄᓗᐊᕐᓂᖓᓄᑦ, ᐅᕝᕙᓘᓐᓃᑦ ᐋᓐᓂᖅᑕᐃᓕᒪᑎᓪᓗᒍ ᐃᒪᕐᒥᐅᑕᖅ ᐆᒪᔪᖅ. ᐃᖃᓗᓕᕆᔾᔪᑎᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔾᔪᑎᒃᑯᑦ ᑲᓇᑕᒥ ᐃᓄᓐᓂᑦ ᖃᐅᔨᓴᕐᓂᕐᑲᖅᑐᑦ ᖃᐅᔨᑎᑦᑎᓗᑎ ᑭᖑᓪᓕᕐᒥᑦ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᑦ, ᐱᖁᔭᐅᑎᓪᓗᑎ ᐃᓄᓐᓂᑦ ᑲᑎᒪᑎᑦᑎᓂᖅ ᐅᑯᑎᒍᓇ ᑲᓇᑕᒥ ᐅᕐᑲᓕᒫᒐᐃᑦ ᐱᕙᓪᓕᐊᓂᖓ (http://www.dfo-mpo.gc.ca/fisheries-peches/consultation/mmr-par-rmm-rap-eng.html ᐅᕝᕙᓘᓐᓃᑦ http://www.dfo-mpo.gc.ca/fisheries-peches/consultation/mmr-par-rmm-rap-fra.html). ᐋᖅᑭᒋᐊᖅᑕᐅᔪᓐᓇᑐᐃᓐᓇᓇᐊᓖᑦ ᑐᑦᑖᖓᑎᑕᐅᔪᑦ ᑮᓇᐅᔭᓕᐅᕋᓱᓐᓂᕐᒧᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᓄᑦ ᐊᒻᒪ ᐊᑦᑐᐃᓂᕐᑲᔾᔭᖏᑦᑐᖅ ᐃᓄᐃᑦ ᐊᖑᓇᓱᓐᓂᕐᒧᑦ ᐱᔪᓐᓇᐅᑎᖏᓐᓂᑦ.

ᑐᓴᖅᑎᑦᑎᓂᖅ:

ᐅᓪᓗᒥᒧᑦ ᑎᑭᑦᑐᒍ, ᐱᕐᕍᑕᐅᑎᑦᑎᓂᐅᔪᖅ ᐅᑯᓂᖓ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐊᒻᒪ ᐊᐅᓚᑦᑎᕐᕙᑎᓪᓚᑦᑐᑦ ᐱᓕᕆᕝᕙᑎᓪᓚᑦ ᓴᖅᑭᖅᓯᒪᔪᖅ ᐅᕙᓐᖓᓂ ᑎᓯᐱᕆ 2018, ᐱᕝᕙᓯᐅᑎᓪᓗᑎ ᑐᓂᔭᐅᓂᖏᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐊᒻᒪ ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᔫᓂᒥᑦ 2019. ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᑲᔪᓯᑎᑦᑎᓂᐊᖅᑐᑦ ᐱᕐᕍᑕᐅᑎᑦᑎᓂᕐᒥᑦ ᐊᐅᓚᑦᑎᕐᕙᑎᓪᓚᑦᑐᓂᑦ ᑲᑐᔾᔨᕐᕙᑎᓪᓂᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ ᐊᑐᐃᓐᓇᐅᓕᕈᑎ. ᑲᑎᒪᓂᐅᕋᑖᖑᓛᖑᓯᒪᔪᖅ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓚᐅᖅᑐᑦ ᐃᐳᕈ 27, 2020 ᑖᒃᑯᓂ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᕿᒥᕐᕈᓚᐅᖅᑐᑦ 2020 ᑎᑎᕋᖅᑕᐅᒋᐊᓐᖓᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᐊᒻᒪ ᐅᓪᓗᒥᒨᖓᓕᖅᑎᑕᐅᓯᒪᔪᑦ ᐊᐅᓚᑦᑎᕐᕙᑎᓪᓚᑦᑐᑦ ᑲᑐᔾᔨᕐᕙᑎᓪᓚᑦ ᓇᓗᓴᐃᔭᖅᓯᒪᔪᕐᕙᖅᑐᓂᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔭᕆᐊᓕᓐᓄᑦ ᑐᓴᖅᑎᑦᑎᓂᕐᒧᑦ ᐅᑯᓂᖓ ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐊᒻᒪ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ. ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᐊᑐᓂ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᐅᔪᑦ ᐱᑕᕐᕋᖅᑎᑕᐅᔪᑦ ᕼᐃᖅᑯᔭᐅᓯᒪᔪᓕᒫᓄᑦ. ᑐᓴᕋᔅᓴᐃᑦ, ᐱᔭᐅᔪᑦ ᑖᒃᑯᓇ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᐃᓚᓕᐅᔾᔭᐅᓯᒪᔪᑦ ᐊᑕᖏᖅᑐᒋᑦ ᐊᕙᑦᑐᖅᓯᒪᔪᓄᑦ ᑐᓂᔭᐅᔪᑦ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᑕᕆᐅᕐᓂᑦ ᐊᒻᒪ ᓯᓚᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᑕᐅᓂᖏᓐᓄᑦ. ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᑐᓴᖅᑎᑦᑎᓂᕐᒧᑦ ᐱᓕᕆᔭᐅᔪᓂᑦ ᐃᓚᓕᐅᔾᔭᐅᔪᖅ ᖃᐅᔨᒋᐊᕐᕕᐅᓪᓗᓂ ᐅᕙᓂ (ᑎᑎᕋᖅᓯᒪᔪᓂᑦ 3).

ᐊᑐᓕᕐᑯᔭᐅᔪᑦ:

ᐊᑐᓕᕐᑯᔭᐅᔪᖅ ᑖᒃᑯᐊ ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᐊᒻᒪ ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᑲᔪᓯᑎᑦᑎᓗᑎ ᐃᑲᔪᖅᑐᐃᓂᕐᒥᑦ ᐃᓚᒋᔭᐅᑎᑕᐅᓂᖏᓐᓄᑦ ᑖᒃᑯᐊ ᐃᖃᓗᓕᕆᓂᓪᓗᐊᑕᐅᔪᑦ ᐅᕙᓂ ᑎᑎᕋᖅᓯᒪᔪᓂᑦ ᓄᓇᓕᕐᔪᐊᖅ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ LOFF. ᑲᑎᒪᔾᔪᑦ ᐃᓱᒫᓘᑎᖃᖅᑐᑦ ᖃᐅᔨᒃᑲᐅᑎᑕᐅᒋᐊᓖᑦ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐱᒋᐊᓚᐅᖅᑎᓐᓇᒍ ᐊᔾᔨᒌᓐᖑᐊᖅᑎᒐᔅᓴᐅᔪᓄᑦ ᓇᓂᔭᐅᔪᓄᑦ ᐅᓇᐅᓕᖅᑲᑦ ᑐᔅᓯᕋᐅᒻᒧᑦ ᐱᕙᓪᓕᐊᓂᖓ ᐅᑭᐊᔅᓴᖓᓂ 2020. ᑲᑎᒪᔾᔪᑦ ᖃᐅᔨᒃᑲᖅᑕᐅᓂᐊᖅᑐᑦ ᖃᖓ ᑕᒪᓐᓇ ᐱᕙᓪᓕᐊᓂᖓ ᐱᒋᐊᕋᔭᕐᒪᖔᖅ.

ᑎᑎᕋᖅᑐᖅ:

ᑲᐃᑦᓚᓐ ᐹᕐᑎᐅᓪ, ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ, ᓄᓇᒦᙱᖅᑐᓂᑦ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ, ᐅᑭᐅᑕᖅᑐᒧᑦ.

ᐅᓪᓗᖓ: ᔪᓚᐃ 22, 2020

ᑎᑎᕋᖅᓯᒪᔪᓂᑦ 1: ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᒥᐊᓕᒐᓂᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᓴᐳᒻᒥᕐᑎᓂᕐᒧᑦ ᐱᕐᑯᔭᕐᑰ(MMPA) ᑎᑭᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᒍᑕᖏᑦ

MMPA ᑎᑭᑎᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᒍᑕᖏᑦ

- ᒥᐊᓕᒐᒃᑯᑦᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ ᓴᐳᒻᒥᕐᑎᓂᕐᒧᑦ ᐱᕐᑯᔭᖅ (MMPA) ᑎᑭᑎᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᒍᑕᖏᑦ ᓴᖅᑭᑎᑦᑎᔪᑦ ᓄᑖᓂᑦ ᓂᐅᕈᑎᕐᑲᓂᕐᒧᑦ ᐱᔭᓭᐅᔪᓂᑦ ᐱᑕᕐᑲᕆᐊᕐᑲᖅᑎᑕᐅᔪᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓄᑦ ᑎᑭᑎᑦᑎᕙᑦᑐᓄᑦ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᐊᒻᒪ ᐱᕐᑲᓯᐅᔾᔨᔪᑦ 3 ᐃᓚᒍᑕᖏᑦ ᓇᓗᓇᐃᔭᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᒥᑦ ᓯᓚᑖᓃᖔᖅᑐᓂᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓂᑦ (LOFF):ᐱᕈᖅᓴᖅᑕᐅᓯᒪᖏᑦᑐᓂᑦ ᐃᕐᑲᓗᑦᑕᐅᔪᓂᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᑦ, ᐱᕈᖅᓴᐃᓂᕐᒧᑦ ᐊᐅᓚᓂᖏᑦ, ᐊᒻᒪ ᕿᑎᐊᓄᓇᓕᕐᔪᐊᑦ.

- ᑖᒃᑯᐊ ᐃᓚᒍᑕᖏᑦ ᐊᑐᖅᑐᑐᐊᖑᔪᑦ ᓄᓇᓕᕐᔪᐊᓄᑦ ᐃᕐᑲᓕᕆᓂᐅᔪᓂᑦ ᐊᐅᓚᑎᑦᑎᕙᑦᑐᓄᑦ ᐃᕐᑲᓗᓐᓂᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᕐᑲᓗᒥᓂᕐᓂᑦ ᒥᐊᓕᒃᑯᓐᓄᑦ ᑕᕝᕗᖓᑦᑕᐅᑎᒋ ᐅᕝᕙᓘᓐᓃᑦ ᑕᕝᕗᖓᑦᑕᐅᑎᒋᐅᖏᑦᑐᖅ, ᐃᒪᑦᑑᓪᓗᓂ **ᕿᑎᐊᓅᑦᑐᑦ ᓄᓇᓕᕐᔪᐊᓄᑦ**.

- ᐊᑖᓂ ᑎᑭᑎᑦᑎᒍᓇᓂᕐᒧᑦ ᐃᓚᒍᑕᖏᓐᓂ, ᐱᒋᐊᕐᓂᖅᑳᖅᑐᖅ ᔫᓐᓄᐊᕆ 1, 2022, ᐃᕐᑲᓗᒐᓱᖅᑲᑦᑕᖅᑐᑦ ᓄᓇᓕᕐᔪᐊᑦ ᐊᐅᓪᓚᑎᑦᑎᔪᒪᓂᐊᖅᑐᑦ ᐃᕐᑲᓗᓐᓂᑦ ᐅᕝᕙᓘᓐᓃᑦ ᐃᕐᑲᓗᒥᓂᕐᓂᑦ ᒥᐊᓕᒃᑯᓐᓄᑦ ᐱᓇᓱᐊᕆᐊᓖᑦ ᐊᒻᒪ ᐱᓗᑎ **ᐊᔾᔨᐅᖏᓐᖑᐊᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᖃᐅᔨᔭᐅᔪᑦ** ᒥᐊᓕᒃᑯᓂᑦ ᐃᒪᕐᒥᑦ ᐊᒻᒪ ᓯᓚᖓᓂ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ (NOAA) ᐊᑐᓂ ᑮᓇᐅᔭᓕᐅᕋᓱᖕᓂᕐᒧᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓄᑦ ᐊᒻᒪ ᐱᕈᖅᓴᐃᓂᕐᒧᑦ ᐊᐅᓚᓂᖏᓐᓄᑦ.

ᕿᑎᐊᓅᑦᑐᑦ ᓄᓇᓕᕐᔪᐊᑦ:ᓄᓇᓕᕐᔪᐊᖑᔪᖅ ᐊᐅᓪᓚᑎᑦᑎᕙᑦᑐᑦ ᐃᕐᑲᓗᓐᓂᑦ ᐃᕐᑲᓗᒥᓂᕐᓂᓘᓐᓃᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓂᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᓯᓚᑖᓃᖔᖅᑐᓂᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓂᑦ ᐊᒻᒪ ᐊᐅᓪᓚᖅᑎᑕᐅᒃᑲᓂᖅᑐᑦ ᐃᕐᑲᓗᐃᑦ ᐃᕐᑲᓗᓕᒥᓃᓪᓘᓐᓃᑦ ᒥᐊᓕᒃᑯᓐᓄᑦ.

ᐊᔾᔨᐅᖏᓐᖑᐊᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᖃᐅᔾᔨᔭᐅᔪᑦᖃᐅᔾᔨᔭᐅᔪᑦ ᐅᑯᓄᖓ NOAA ᐱᑕᕐᑲᕆᐊᕐᑲᖅᑎᑕᐅᔪᑦᐊᐅᓪᓚᑎᑎᓗᓂ ᐃᕐᑲᓗᓐᓂᑦ ᐃᕐᑲᓗᒥᓂᕐᓂᓘᓐᓃᑦ ᒥᐊᓕᒃᑯᓐᓄᑦ.

ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ ᒥᐊᓕᒃᑯᑦ ᒪᑭᒪᒃᑯᖏᓐᓂ ᐱᔾᔪᑎᖃᖅᑐᓂᑦ MMPA ᑎᑭᑎᑦᑎᓂᕐᒧᑦ ᐃᓚᒍᑕᖏᑦ ᐅᕙᓂ ᕿᒥᕐᕈᔭᐅᔪᓇᖅᑐᑦ: [https://www.fisheries.noaa.gov /foreign/marine-mammal-protection/noaa-fisheries-establishes-international-marine-mammal-bycatch-criteria-us-imports.](https://www.fisheries.noaa.gov/foreign/marine-mammal-protection/noaa-fisheries-establishes-international-marine-mammal-bycatch-criteria-us-imports)

ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓯᓚᑖᓃᖔᖅᑐᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᑦ (LOFF)

ᒥᐊᓕᒃᑯᑦ ᓴᖅᑭᑎᑦᑎᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᑦ ᓯᓚᑖᓃᖔᖅᑐᓂᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓂᑦ (ᐊᐅᓪᓚᑎᑦᑎᕙᑦᑐᑦ ᐃᕐᑲᓗᓐᓂᑦ ᐃᕐᑲᓗᒥᓂᕐᓂᓘᓐᓃᑦ ᒥᐊᓕᒃᑯᓐᓄᑦ), ᑐᓐᖓᓂᖅᑲᖅᑐᑦ ᑐᓴᕐᕕᐅᔪᓂᑦ ᐃᕐᑲᓗᒐᓱᖅᑲᑦᑕᖅᑐᓂᑦ ᓄᓇᓕᕐᔪᐊᓂᑦ ᐊᒻᒪ ᐊᓯᖏᓐᓂᑦ ᑎᒥᐅᔪᓂᑦ.LOFFᓇᓗᓇᐃᖅᓯᔪᖅ ᐊᑐᓂ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᖅ ᓇᓪᓕᐊᑐᐃᓐᓇᐅᓪᓗᓂ "ᐱᕐᑲᓯᐅᔾᔭᐅᖏᑦᑐᖅ" ᐅᕝᕙᓘᓐᓃᑦ "**ᐊᐅᓪᓚᖅᑎᑕᐅᔪᖅ**" ᐃᕐᑲᓗᓕᕆᓂᕐᒥᑦ ᑐᓐᖓᕕᒋᓪᓗᒋᑦ ᐊᑦᑕᓇᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᐅᔪᐃᑦ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᑦ ᐆᒪᔪᖅᑕᐅᔪᑦ. ᐊᕐᕌᒍᖏᓐᓂ 2016-2019, ᐃᒪᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ (DFO)ᑲᑎᒪᖅᑲᑎᖅᑲᓚᐅᖅᑐᑦNOAAᐱᑕᖅᑲᖅᑎᑦᑎᓪᓗᑎ ᐊᒻᒪ ᐋᖅᑭᒋᐊᖅᑐᒋᑦ ᑐᑭᓯᒋᐊᕈᑎᑦ ᐊᒥᓱᒐᓚᓐᓄᑦ ᑎᑎᕋᕆᐊᓐᖓᖅᑕᐅᓯᒪᔪᑦLOFF, ᑭᖑᓪᓕᖅᐹᖓ ᓂᕆᐅᒋᔭᐅᔪᖅ ᓴᖅᑭᖅᑎᑕᐅᓗᑎ ᐅᓄᐊᕆ–ᒫᕐᓯ 2020.The 2018 LOFFᓇᓂᔭᐅᔪᓐᓇᖅᑐᖅ ᐅᕙᓂ:[https://www.fisheries.noaa. gov/foreign/international-affairs/list-foreign-fisheries.](https://www.fisheries.noaa.gov/foreign/international-affairs/list-foreign-fisheries)

ᐱᕐᑲᓯᐅᔾᔭᐅᖏᑦᑐᖅ:ᑕᐃᒪᐃᓐᓂ ᖃᓂᐊᖅᑑᔾᔭᖏᑦᑐᖅ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐆᒪᔪᖅᑕᐅᓗᑎ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᑦ

ᐊᐅᓪᓚᖅᑎᑕᐅᔪᖅ: ᐊᑦᑕᓇᕐᓂᖅᑲᖅᑐᖅ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐆᒪᔪᖅᑕᐅᓗᑎ ᐆᒪᔪᖅᑕᐅᒋᐊᖏᑦᑐᑦ

ᓇᓗᓇᐃᖅᓯᒍᑕᐅᔪᖅ: ᐅᑯᐊ ᑎᑎᕋᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓚᐅᖅᑐᑦ ᐃᒪᕐᒥᑕᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐃᑲᔪᕐᓗᑎ ᑲᓇᑕᒥᐅᑕᓂᑦ ᐃᕐᑲᓗᓕᕆᓂᐅᔪᓂᑦ ᓄᒧᑦ ᒥᐊᓕᒃᑯᑦ MMPA ᑎᑭᑎᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᒍᑕᖏᑦ. ᐅᑯᐊ ᑭᖑᕙᕆᔭᐅᖏᑦᑐᑦ ᑐᑭᓯᒋᐊᕈᑎᓂᑦ ᐊᑐᐃᓐᓇᐅᔪᓂᑦ ᒥᐊᓕᒃᑯᓐᓂᑦ

ᖃᓄᖅ MMPAᑐᑭᖃᕐᓂᖓ ᑲᓇᑕᒥᐅᑕᓄᑦ ᑮᓇᐅᔭᓕᐅᕋᓱᓐᓂᕐᒧᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᓄᑦ

- ᐃᖃᓗᓕᕆᓂᓕᒫᖓᔪᑦ ᐊᐅᓪᓚᑎᑦᑎᓂᐊᖅᑐᑦ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᐱᖃᓱᐅᔾᔨᔭᕆᐊᓖᑦ ᐱᔪᓐᓇᖅᑎᑕᐅᖏᑦᑐᓂᑦ ᓯᓚᕐᔪᐊᒥᑦ ᑐᑭᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᐊᒻᒪ ᐋᓐᓂᕐᔪᐊᖃᑦᑕᕐᓂᖏᓐᓄᑦ ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᑮᓇᐅᔭᓕᐅᕋᓱᓐᓂᒃᑯᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐅᓚᓂᖃᖅᑎᓪᓗᒋᑦ.

- ᐊᐅᓪᓚᑎᑦᑎᖃᑦᑕᖅᑐᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᐱᑕᖃᕆᐊᖃᖅᑎᑕᐅᒻᒥᔪᑦ ᐱᓯᒪᑎᑦᑐᑎ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᓐᓂᑦ ᐱᓕᕆᐊᓂᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᒧᑦ ᐊᔾᔨᒌᓐᖑᐊᖅᑎᒐᔅᓴᐅᔪᖅ ᐊᐅᓚᓂᖃᑎᐊᕐᓂᖓᓄᑦ ᒥᐊᓕᒐᒃᑯᓐᓄᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓕᓐᓄᑦ ᐱᓕᕆᐊᒧᑦ, ᐱᔾᔪᑎᖃᖅᑐᓂᑦ ᐱᓗᐊᕐᔭᐃᖅᓯᒪᑎᑦᑎᓂᕐᒧᑦ ᐋᒪᔪᖅᑕᐅᒥᐊᖏᑦᑐᓂᑦ ᐆᒪᔪᖅᑕᐅᔪᓂᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦ.

- ᐃᒪᕐᒥᐅᑕᓕᕆᔩᒃᑯᑦ ᖃᐅᔨᓴᖅᑎᖏᑦ ᐃᑲᔪᓯᖅᑐᑦ ᑲᓇᑕᐅᑉ ᑐᕌᖅᑕᖓᓂ ᑎᑭᑦᑎᑐᓂ MMPA ᑎᑭᑎᑕᐅᓂᖏᓐᓄᑦ ᐃᓚᒍᑕᖓ ᐱᑕᖃᕆᐊᖃᖅᑎᑕᐅᔪᖅ ᐱᑕᖃᖅᑎᑦᑎᑐᑎ ᐊᒥᓲᓂᖏᓐᓄᑦ ᒥᓭᐅᓭᑦᑕᐅᓯᒪᔪᓂᑦ ᐊᒻᒪ **ᐆᒪᔪᓂᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᑦ ᐲᖅᑕᐅᔪᓐᓇᕐᓂᖓᓄᑦ** ᕿᒃᑯᓯᓐᓂᖏᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᐆᒪᔪᓄᑦ ᖃᓄᐃᓘᖃᖃᑦᑕᕈᓐᓇᕐᓂᖏᓐᓄᑦ ᖃᓇᑕᒥᐅᑕᓂᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᓂᑦ.

ᐆᒪᔪᓂᑦ ᖃᐅᔨᓴᖅᑕᐅᔪᓂᑦ ᐲᖅᑕᐅᔪᓐᓇᕐᓂᖓᓄᑦ:ᐊᒥᓲᓛᓇᔪᓐᓇᖅᑕᕆᑦ ᐆᒪᔪᐃᑦ (ᐱᖃᓱᐅᑎᓐᓇᑎ ᐃᒥᒻᒥᒃᑯᑦ ᑐᕐᑯᖃᑦᑕᖅᑐᑦ) ᐲᖅᑕᐅᔪᓐᓇᖅᑐᑦ ᐃᒪᕐᒥᐅᑕᓂᑦ ᐆᒪᔪᓂᑦᑖᒃᑯᐊ ᐆᒪᔪᐃᑦ ᑎᑭᑦᑎᔪᓐᓇᕐᓗᑎ/ᒪᑭᒪᑎᑕᐅᓗᑎᓄᖕᒍ ᓴᓗᐊᕆᑦᑐᓂᑦ ᐊᒥᓲᓂᕆᓐᓄᑦ ᕿᑦᑫᓯᓐᓂᕆᑦ

ᖃᕆᐅᒃᑰᓂᖓ ᒥᐊᓕᒐᒃᑯᑦ MMPA

ᐋᒡᒌᓯ 15, 2016: ᒥᐊᓕᒐᒃᑯᑦ *MMPA ᑭᖑᓪᓕᖅᐹᒥ ᐋᖅᑭᑦᑕᖓ ᓴᖅᑭᖅᑎᑕᐅᔪᖅ*

ᒫᑦᓯ 16, 2018: ᓯᕗᓪᓕᖅᐹᑎ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓯᓚᑖᓃᖓᖅᑐᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᓴᖅᑭᖅᑎᑕᐅᔪᑦ

ᓯᑎᐱᕆ 10th, 2019: ᑲᓇᑕᒥ ᐱᕙᓪᓕᐊᓂᖓᓄᑦ ᐅᓂᒃᑳᑦᑐᓂᔭᐅᔪᑦ ᑲᓇᑕᒥ ᐃᒪᕐᒥ ᐃᖃᓗᓕᕆᓂᕐᒥᑦ ᐱᔨᑦᑎᖅᑕᑦ (ᐃᓚᒋᔭᖓ *NOAA*) ᐃᒪᕐᒥᐅᑕᓕᕆᔩᒃᑯᓐᓄᑦ. ᖃᕋᓴᐅᔭᒃᑯᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ ᑐᓂᔭᐅᔪᑦ 2014-2018 ᐅᑯᓇᓂ 200 ᐊᐅᓪᓚᑎᑦᑎᖃᑦᑕᖅᑐᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᓂᑦ, 123 ᐱᖃᓱᐅᔾᔭᐅᖏᑦᑐᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ, ᐊᒻᒪ 99 ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ.

ᕕᕝᕗᐊᕆ/ᒫᑦᓯ 2020: NOAA ᓴᖅᑭᑎᑦᑎᓂᐊᖅᑐᑦ ᑭᖑᓪᓕᕐᒥ ᑎᑎᕋᕐᕆᐊᕐᓂᖅᑕᐅᔪᑦ LOFF - ᐃᒪᕐᒥᐅᑕᓕᕆᔩᒃᑯᑦ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᑎᑦᑎᓂᐊᖅᑐᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᓂᑦ ᐃᓕᓐᓂᐊᓯᓐᓈᕐᓗᑎ ᐃᓚᐅᖃᑕᐅᔪᑦ ᕿᒥᕐᕈᓂᐊᖅᑐᑦ LOFF

ᔪᓚᐃ 2020: ᑭᖑᓪᓕᖅᐹᒥᑦ ᑎᑎᕋᖅᓯᒪᔪᑦ ᓯᓚᑖᓃᖓᖅᑐᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᓴᖅᑭᖅᑎᑕᐅᓂᐊᖅᑐᑦ ᐅᑯᓇᖓᑦ NOAA

ᒫᑦᓯ 1, 2021: ᑐᓴᕋᐅᑏᑦ ᐊᔾᔨᒌᓐᖑᐊᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᖃᐅᔨᔭᐅᔪᑦ ᐊᑐᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ (ᑎᓴᒪᓂᑦ ᐊᕐᕌᒍᓂᑖᑦ)

ᓄᕕᐱᕆ 30, 2021: ᒥᐊᓕᒐᒃᑯᑦ ᐃᓱᒪᓕᐅᖅᑐᑦ ᐊᔾᔨᒌᓐᖑᐊᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᑐᓴᕋᐅᑎᓂᑦ

ᔮᓄᐊᕆ 1, 2022: MMPA ᑎᑭᑦᑎᓂᕐᒧᑦ ᐃᓚᒍᑕᖏᑦ ᐊᑐᓕᖅᑎᑕᐅᔪᑦ

ᑎᑎᕋᖅᓯᒪᔪᓂᑦ 2: ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ ᐊᓯᔾᔨᖅᑐᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᐆᒪᔪᓄᑦ (MM) ᑎᑎᕋᖅᑕᐅᓯᒪᔪᓂᑦ 2020

<u>ᑎᑎᕋᖅᑕᐅᒋᐊᓐᖓᖅᓯᒪᔪᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ</u>

ᐱᔾᔪᑎᖓ ᐊᓯᔾᔨᖅᑐᓄᑦ: ᐊᓯᔾᔨᖅᑐᓕᒫᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᐆᒪᔪᓄᑦ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ ᓴᓇᔭᐅᓚᐅᖅᑦ ᑐᓐᖓᓂᖃᖅᑐᑎᑦ ᐋᖅᑭᐊᖅᑕᐅᑲᓂᕐᓂᖔᓐᓄᑦ ᓇᒧᖓᖃᑦᑕᕐᓂᖔᓐᓄᑦ ᐊᑦᑐᐊᓂᖃᖅᑐᓄᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᓇᒦᓐᓂᖓᓄᑦ. ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᖃᖓᒎᖃᑦᑕᐅᑎᓂᖔᑉᐸᑕ ᐊᒻᒪ ᑐᓴᖅᑎᑦᑎᓯᒪᔪᖃᖔᓕᒃᑐᓂ ᖃᓄᐃᓘᖃᑦᑕᐅᑎᓂᐅᔪᓂᑦ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᐊᐱᖅᑯᑕᐅᔪᒧᑦ, ᐋᖅᑕᐅᓚᐅᖅᑐᖅ. ᐊᓯᐊᒎᕈᑎᔅᓴᓕ, ᐃᖃᓘᓂᑦ ᐱᖃᓱᐅᔾᔭᐅᒋᐊᓐᖓᓚᐅᕐᒋᑦᑐᓂᑦ ᐅᖓᑖᒎᖃᑦᑕᐅᑎᒋᓱᒋᔭᐅᔪᑦ ᐱᔾᔪᑎᒋᓪᓗᒍ ᐃᖃᓗᓕᕆᓂᐅᔪᖅ, ᐃᓚᔭᐅᓚᐅᖅᑐᖅ.

ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᕐᒋᑦ – ᓄᓗᐊᑦ ᐊᒻᒪ ᐊᑦᑐᓈᓄᑦ (ᐋᖅᑭᔅᓯᒪᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ) 0A/0B

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᒍᕋᐃ ᓇᑦᑏᑦ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)
- ᐅᑭᐅᑕᖅᑐᒥᑦ ᑎᑳᒍᓪᓖᑦ (ᓯᑰᓴᓐ ᐊᕙᑦᑐᖅᓯᒪᓂᖓ)

ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᕐᒋᑦ – ᑲᓕᑦᑕᐅᔪᑦ (ᐃᕐᒋᕋᔪᑦ ᐃᖃᓗᖓᓱᐊᕈᑏᑦ) 0A/0B

ᐊᓯᔾᔨᕐᒋᑦᑐᑦ

ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᕐᒋᑦ – ᐊᑦᑐᓈᓄᑦ 0B ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᑲᓕᕋᓕᓐᓂᑦ ᐊᐅᓕᕐᑎᕙᒋᔭᐅᔪᖅ (CSTMA)

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᕿᓚᓗᒐᐅᔭᕐᓄᑦ (ᐃᓚᖓ ᓴᐃᓐᑦ. ᓗᐊᕋᓐᔅ, ᓯᑰᓴᓐ ᐊᕙᑦᑐᖅᓯᒪᓂᖓ, ᐃᒪᖓ ᕙᓐᑎ, ᓂᐅᐸᐅᓈᓐ); (ᐱᖓᓐᓇᖓᓂ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓖᑦ)
- ᒍᕋᐃ ᓇᑦᑏᑦ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)
- ᐊᕐᕕᐅᔭᐃᑦ (ᐃᓚᖓ ᓴᐃᓐᑦ. ᓗᐊᕋᓐᔅ, ᓯᑰᓴᓐ ᐊᕙᑦᑐᖅᓯᒪᓂᖓ, ᐃᒪᖓ ᕙᓐᑎ, ᓂᐅᐸᐅᓈᓐ); (ᐱᖓᓐᓇᖓᓂ ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓖᑦ)

ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᕐᒋᑦ – ᐊᑦᑐᓈᓄᑦ 0A ᓄᓇᕗᒻᒥ ᓇᔪᖅᑕᐅᔪᒧᑦ

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᒍᕋᐃ ᓇᑦᑏᑦ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐃᓚᔭᐅᔪᑦ

- ᐊᑦᓖᓐᑎᒃ ᐊᐃᑦ (ᐱᐅᓇ ᐃᒪᖓ/ᑕᕐᓗᕈᑎᐅᑉ ᐃᒪᖓ)

ᑭᖑᐸᐃᑦ/ᐅᑭᐅᑕᖅᑐᒥᑦ ᑭᖑᐸᕐᒋᑦ – ᐊᓯᕐᒋᑦᑲᓕᑦᑕᐅᔪᑦ

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᒍᕋᐃ ᓇᑦᑏᑦ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)

ᐃᖃᓗᐃᑦ – ᓄᓗᐊᑦ ᐃᖃᓘᑦᑎᐊᖅ

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᐊᑦᓖᓐᑎᒃ ᐊᐃᑦ (ᐱᐅᓇ ᐃᒪᖓ/ᑕᕐᓗᕈᑎᐅᑉ ᐃᒪᖓ)
- ᕿᓚᓗᒐᐃᑦ, ᖃᑯᖅᑕᑦ ᕿᓚᓗᒐᐃᑦ (ᖁᑦᑎᑦᑐᒥ ᐅᑭᐅᑕᖅᑐᒥ)

ᐃᖃᓗᐃᑦ – ᓄᓗᐊᑦ ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᕿᓚᓗᒐᐅᔭᖅ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)
- ᒍᕋᐃ ᓇᑦᑏᑦ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)

ᐃᖃᓗᐃᑦ – ᓄᓗᐊᑦ (ᕿᑎᕐᒥᐅᑦ, ᑭᕙᓪᓕᖅ, ᐊᒻᒪ ᕿᑭᖅᑖᓗᒃ ᓄᓇᕗᒻᒥ)

ᐃᒪᕐᒥᐅᑕᐃᑦ ᐆᒪᔪᐃᑦ ᐲᖅᑕᐅᔪᑦ

- ᕿᓚᓗᒐᐅᔭᖅ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)
- ᒍᕋᐃ ᓇᑦᑏᑦ (ᐱᖓᓐᓇᖓᓂ ᐅᐊᓐᓇᖓᓂ ᐊᑦᓖᓐᑎᒃ)

ᑎᑎᕋᖅᓯᒪᔪᓂᑦ 3: ᑎᑎᕋᖅᓯᒪᔪᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᓂᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐱᖃᑕᐅᑎᑦᑎᓂᕐᒧᑦ ᑐᓵᖅᑎᑦᑎᒍᓐᓇᕐᓗᑎ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᐅᑭᐅᑕᖅᑐᒥ ᑎᑎᕋᖅᑕᐅᓯᒪᔪᑦ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦᑐᓂᔾᐅᔪᑦ

ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ	ᑲᐅᔾᔨᖃᑎᒌᑦ ᖃᐅᔾᔨᒋᐊᕐᕕᐅᔪᑦ	ᐊᑐᖅᑕᐅᓂᖓ ᐱᑕᖃᑕᐅᑎᑦᑎᓂᕐᒧᑦ
ᐃᖃᓗᑦᑑᑦᑎᐊᒥ ᐃᖃᓗᐃᑦ	ᕿᑎᕐᒥᐅᑦ ᓂᕿᑦ ᑎᒥᖓᑦ (KF) ᐃᖃᓗᑦᑐᑦᑎᐊᖅ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐃᖃᓗᑦᑑᑦᑎᐊᖅ ᓄᓇᓕᒻᒥ ᐃᓐᓇᑐᖃᐃᑦ ᓄᓇᕘᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕇᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ	ᕿᑎᕐᒥᐅᑦ ᓂᕿᑦ ᑎᒥᖓᑦ (KF) ᐃᖃᓗᒐᓯᐊᕐᓇᐅᓚᐅᖅᑎᓪᓗᒍ ᑲᑎᒪᓂᖓ (ᔫᓐ ᓄᐊᕆ 2019) ᑐᓴᕋᐅᑦ ᐅᖃᐅᓯᕐᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019)
ᐸᓂᖅᑑᖅ ᐃᑲᖓᓂ ᐃᖃᓗᐃᑦ	ᐸᓂᖅᑑᖅ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ: ᓄᓇᕘᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕘᒻᒥ ᐃᓄᐃᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑎᑎᕋᕝᕕᖓ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕇᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ	ᑐᓴᕋᐅᑦ ᐅᖃᐅᓯᕐᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019)
ᓄᓇᕘᒻᒥ ᐃᖃᓗᐃᑦ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ (ᐊᒥᐊᒃᑯᖓ)	ᓄᓇᓕᓐᓂᑦ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ: ᑲᖏᖅᖢᒑᐱᒃ, ᖃᐅᓯᐃᑦᑐᖅ, ᒥᑦᑎᒪᑕᓕᒃ, ᕿᑭᖅᑕᖅᔪᐊᖅ, ᐃᐸᐊᕐᔪᐊᒃ, ᐃᒡᓗᓕᒃ, ᓴᓂᕋᔭᒃ, ᐊᐅᔨᑦᑐᖅ, ᑭᙵᐃᑦ, ᐃᖃᓗᐃᑦ, ᑭᒻᒥᕈᑦ, ᓴᓂᑭᓗᐊᖅ, ᐅᖅᓱᖅᑑᖅ, ᑕᓗᕐᔪᐊᖅ, ᑰᒑᕈᒃ, ᑯᕐᓗᖅᑐᖅ, ᕿᖓᒃᐅᑦ ᕿᑎᕐᒥᐅᑦ ᐆᒪᔪᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕘᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕇᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ	ᑐᓴᕋᐅᑦ ᐅᖃᐅᓯᕐᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019)
ᐸᓂᖅᑑᖅ ᐃᑲᖓᓂ ᖃᓕᕋᓕᓂᑦ ᐊᐅᓚᑦᑎᕕᒋᔭᐅᔪᖅ (CSTMA) ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ	ᐸᓂᖅᑑᖅ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ ᐸᓂᖅᑑᖅ ᐃᑲᖓᓂ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ/ᐸᓂᖅᑑᖅ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑎᒥᖓᑦ. ᓄᓇᕘᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕘᒻᒥ ᐃᓄᐃᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑎᑎᕋᕝᕕᖓ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕇᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ	ᓄᓇᕘᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ – ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔨᒃᑯᑦ ᑲᓇᑕᒥ ᑲᑎᒪᓂᖓ (ᑎᓯᐱᕆ 2018) ᑐᓴᕋᐅᑦ ᐅᖃᐅᓯᕐᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019)
NAFO ᐊᕕᒍᑦᑐᖅᓯᒪᓂᖓ 0, 100 ᑕᓐᓴ	ᓄᓇᓕᓐᓂᑦ ᐆᒪᔪᕐᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔨᖃᑎᒌᖕᒋᑦ: ᐃᐸᐊᕐᔪᒃ, ᒥᑦᑎᒪᑕᓕᒃ, ᑲᖏᖅᖢᒑᐱᒃ, ᕿᑭᖅᑕᖅᔪᐊᖅ, ᖃᐅᓯᐃᑦᑐᖅ, ᐊᐅᔨᑦᑐᖅ, ᓄᓇᕘᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕘᒻᒥ ᐃᓄᐃᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑎᑎᕋᕝᕕᖓ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ ᓄᓇᕗᒃ ᑕᕆᐅᕐᒥᐅᑕᓂᑦ ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕇᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕘᑦ ᒐᕙᒪᒃᑯᑦ	ᑐᓴᕋᐅᑦ ᐅᖃᐅᓯᕐᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019)

ᐅᐊᓐᓇᖓᓂ ᐊᑦᓛᓐᑎᒃ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖃᑎᒌᑦ ᐊᒡᒍᑐᖅᓯᒪᔪᒧᑦ 0 ᐊᑯᑭᑦᑐᑦ ᖃᓕᕋᓕᖏᑦ (ᐋᖅᑭᓯᒪᔪᑦ ᐊᒻᒪ ᐃᖏᕋᔪᑦ ᐃᖃᓗᒐᓱᐊᕈᑏᑦ)	ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔾᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖃᑎᒌᖏᑦ (NFA) ᑲᓇᓐᓇᖓᓂ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖅᑲᒥᐊᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ (EAGSAC) ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᓄᓇᕕᒃ ᑕᓇᐅᕐᒥᐅᑕᓂᑦ ᐊᕙᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕆᔩᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕗᑦ ᒐᕙᒪᒃᑯᑦ	ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᔾᔾᖃᑎᒌᖏᑦ – ᐃᖃᓗᓕᕆᔾᔪᑦ ᐊᒻᒪ ᑕᕆᐅᓕᕆᔾᔪᑦ ᑲᓇᑕᒥ ᑲᑎᒪᓂᖓ (ᑎᓯᐱᕆ 2018) ᑲᓇᓐᓇᖓᓂ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖅᑲᒥᐊᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᓂᕐᒧᑦ ᑲᑎᒪᓂᖓ (ᕕᕗᐊᕆ 2019) ᑐᔅᓯᕋᐅᑦ ᐅᖃᐅᓯᖅᓴᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019) ᑲᓇᓐᓇᖓᓂ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖅᑲᒥᐊᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᓂᕐᒧᑦ ᑲᑎᒪᓂᖓ (ᕕᕗᐊᕆ 2020)
SMU 0, 1, EAZ, WAZ ᕿᑭᖅᑖᓗᐃᑦ	ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔾᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᐅᑭᐅᑕᖅᑐᒥ ᕿᑭᖅᑖᓂ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ (NSAC) ᓄᓇᕗᑦ ᑐᙵᕕᒃᑯᑦ ᓄᓇᕕᒃ ᑕᓇᐅᕐᒥᐅᑕᓂᑦ ᐊᕙᑦᑐᖅᓯᒪᔪᒧᑦ ᐆᒪᔪᓕᕆᔩᑦ ᑲᑎᒪᔨᖏᑦ ᒪᑭᕝᕕᒃ ᓄᓇᕗᑦ ᒐᕙᒪᒃᑯᑦ	ᐅᑭᐅᑕᖅᑐᒥ ᕿᑭᖅᑖᓂ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ ᑲᑎᒪᓂᖓ (ᒫᔅ 2019) ᑐᔅᓯᕋᐅᑦ ᐅᖃᐅᓯᖅᓴᓂᑦ ᑐᓂᔭᐅᓚᐅᖅᑎᓐᓇᒋᑦ (ᒪᐃ 2019) ᐅᑭᐅᑕᖅᑐᒥ ᕿᑭᖅᑖᓂ ᐅᖃᐅᔾᔨᒋᐊᖅᑏᑦ ᑲᑎᒪᔨᕋᓛᖏᑦ ᓇᒻᒥᓂᖃᖃᑕᐅᔪᑦ ᐅᖃᐅᔾᔨᒋᐊᓂᕐᒧᑦ ᑲᑎᒪᓂᖓ (2020)
ᐊᑕᖏᖅᑐᑎ ᓄᓇᓕᖅᔪᐊᕐ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ – ᖃᓄᐃᓕᖓᓂᖏᓐᓄᑦ ᑐᑭᓯᒋᐊᕈᑏᑦ	<u>ᓄᓇᓕᒻᒥ ᐆᒪᔪᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔾᖃᑎᒌᑦ/ᑲᑐᔾᔾᖃᑎᒌᖏᑦ:</u> ᐃᖃᓗᑦᑑᑦᑎᐊᖅ, ᐃᔅᓴᑎᒃ (ᑎᑭᕋᖅᔪᐊᖅ), ᐊᕕᒃ/ᓇᐅᔾᔾ (ᓇᐅᔾᔾ), ᐊᖅᑭᒡᒋᖅ (ᐃᒡᓗᓕᒎᖅᔪᒃ), ᐊᐃᑦ (ᓴᓪᓖᑦ), ᐊᕕᐊᑦ, ᑲᖏᕐᓱᓂᖅ, ᖃᒪᓂᑦᑐᐊᖅ, ᐃᑲᔪᖅᑎᑦ (ᐃᐱᐊᖅᔪᒃ), ᒥᑎᒪᑕᓕᒃ, ᑲᖏᖅᖢᓂᖅ, ᐃᒡᓗᓕᒃ, ᓴᓂᕋᔭᒃ, ᖃᐅᓯᐃᑦᑐᖅ, ᐊᐅᓯᐃᑦᑐᖅ, ᐃᖃᓗᐃᑦ ᐆᒪᔪᓂᐊᑎᒃᑯᑦ ᑲᑐᔾᔾᖃᑎᒌᖏᑦ, ᒪᔪᖅᑲᓕᒃ (ᑭᒻᒥᕈᑦ), ᓇᑦᑎᕝᕕᒃ (ᑭᑭᖅᑕᖅᔪᐊᖅ), ᓴᓂᑭᓗᐊᖅ, ᐅᖅᓱᖅᑑᖅ, ᑰᒐᐃᕈᔪᐊᖅ (ᑰᒑᕈᒃ), ᖁᖅᓗᖅᑐᖅ, ᑕᓗᔪᐊᖅ, ᕿᖓᐅᑦ, ᐸᓐᓂᖅᑑᖅ <u>ᐊᕙᑦᑐᖅᓯᒪᔪᓂᑦ ᐆᒪᔪᓕᕆᔩᑦ ᑲᑐᔾᔾᖃᑎᒌᖏᑦ</u>: ᕿᑎᖅᒥᐅᑦ, ᕿᑭᖅᑖᓗᒃ,	ᐊᕙᑦᑐᖅᓯᒪᔪᒧᑦ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᖅ ᐊᒻᒪ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ (ᓄᕕᐱᕆ 2019) ᐊᕙᑦᑐᖅᓯᒪᔪᒧᑦ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᖅ ᐊᒻᒪ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ

	ᑭᕙᓪᓕᖅᑳ ᒐᕙᒪᐃᑦ ᑲᑦᔾᔨᖃᑎᒌᑦ/ᑲᑎᒪᔩᑦ: ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ, ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ, ᒪᑭᕝᕕᒃ, ᓄᓇᕗᑦ ᑐᓐᖓᕕᒃ ᑎᒥᖓᑦ, ᓄᓇᕗᑦ ᒐᕙᒪᖓᑦ, ᓄᓇᕗᒻᒥ ᐱᕙᓪᓕᐊᑎᑦᑎᓂᕐᒧᑦ ᑯᐊᐳᕇᓴᓐ, ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑐᑎᓪᓗᑎ ᐊᐅᓚᑦᑎᓂᕐᒧᑦ ᑲᑎᒪᔨᕋᖅᑳᑦ, ᐃᓅᕕᐊᓗᐃᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑲᑎᒪᔩᑦ, ᒍᐃᑦᓯᓐ ᓄᓇᒥᒃᖠᖅᑐᓂᑦ ᑲᑎᒪᔩᑦ <u>ᐱᕙᓪᓕᐊᑎᑦᑎᔪᑦ/ᑎᒥᐅᔪᑦ/ᐊᓯᖏᑦ:</u> ᕿᑎᕐᒥᐅᑦ ᓂᕿᑦ ᑎᒥᖓᑦ, ᐊᑐᖅᑐᐊᕐᕕᒃ ᑯᐊᐳᕇᓴᓐ, ᕿᓚᕝᕙᖅ ᐊᐅᓪᓚᕈᔾᔨᔮᑦ, ᐸᓐᓂᖅᑑᖅ ᐃᖃᓗᓕᕆᔨᒃᑯᑦ ᑎᒥᖓᑦ, ᐅᑭᐅᑕᖅᑐᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑦᔾᔨᖃᑎᒌᕐᔪᐊᖏᑦᑦ, ᓄᓇᕗᒻᒥ ᐃᓄᐃᑦ ᓂᕿᖏᑦ, ᓄᓇᕗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑦᔾᔨᖃᑎᒌᖏᑦ, ᕿᑭᖅᑖᓗᒻᒥ ᐃᖃᓗᓕᕆᓂᕐᒧᑦ ᑲᑦᔾᔨᖃᑎᒌᑦ ᐸᓐᓂᖅᑑᖅ ᐃᑭᖓᓂ ᐃᖃᓗᓕᕆᔩᒃᑯᑦ, ᕿᑭᖅᑖᓗᒃ ᑯᐊᐳᕇᓴᓐ, ᐃᒡᓗᓕᒃ, ᑭᕙᓪᓕᖅ ᐅᑭᐅᑕᖅᑐᒥ ᓂᕿᑦ ᑎᒥᖓᑦ, ᑲᓇᓐᓇᖓᓂ ᐅᑭᐅᑕᖅᑐᒥ ᐃᖅᑲᒥᐅᑕᓂᑦ ᐃᖃᓗᓐᓂᑦ ᓇᒻᒥᓂᖃᖅᑕᐅᔪᑦ	(ᒫᑦᓯ 2020) ᐊᕕᑦᑐᖅᓯᒪᔪᒧᑦ ᐅᖄᓚᐅᑎᒃᑯᑦ ᑲᑎᒪᓂᖅ ᐊᒻᒪ ᓇᓗᓇᐃᔭᖅᓯᒪᓂᖏᑦ (ᐃᐳᕈ 2020) ᑐᓴᖅᑎᑦᑎᒍᑎ ᓯᕗᓂᐊᒍᑦ ᑲᑎᒪᑎᑦᑎᓂᕐᒧᑦ ᑐᓯᕋᕐᕕᔪᒧᑦ ᐋᖅᑭᐊᖅᑕᐅᓂᖏᓐᓄᑦ ᐃᒪᕐᒥᐅᑕᓄᑦ ᐆᒪᔪᓄᑦ ᒪᓕᑦᑕᐅᔭᕆᐊᓖᑦ (ᔪᓚᐃ 2020)
ᐊᑕᖏᖅᑐᑎ ᓄᓇᓕᕐᔪᐊᑉ ᓯᓚᑖᓂ ᐃᖃᓗᓕᕆᓂᐅᔪᑦ	ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ ᓄᓇᕕᒻᒥ ᑕᕆᐅᕐᒥᐅᑕᓕᕆᔨᒃᑯᑦ ᑲᑎᒪᔨᖏᑦ	ᑲᑎᒪᑐᐃᓐᓇᓂᕐᒧᑦ ᑐᓂᔭᐅᔪᑦ – ᑐᑭᓯᒋᐊᕈᑏᑦ (ᔫᓂ 2019)

ᑐᓂᕿᑎᒃᓴᐃᑦ ᐅᖃᐅᓯᒃᓴᓂᒃᑕᐅᔪᑦ

ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ

ᐱᔾᔪᑕᐅᓂᕐᒧᑦ

ᖃᐅᔨᑎᑦᑎᒋᐊᕈᑕᐅᓂᖅ *X* **ᐃᓱᒪᓕᐅᕈᑎᒃᓴᖅ::**

<u>ᑐᓂᕿᑎᒃᓴᐃᑦ</u>

<u>ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ ᑲᑎᒪᔨᖏᓐᓄᑦ ᐱᔾᔪᑕᐅᓂᕐᒧᑦ</u>

ᐃᓱᒫᓘᑕᐅᔪᖅ: *ᓯᕗᓪᓕᖁ ᑐᓴᖅᑎᑦᑎᓂᖅ ᑲᓇᑕᓕᒫᒥ ᖃᓄᐃᓕᐅᕈᑕᐅᑎᐊᕈᒪᔪᑦ ᐊᓯᔾᔨᓂᖅ ᓴᐳᓐᓂᐊᕈᑕᐅᕙᒃᑐᑦ ᐊᒥᕐᔪᙱᓗᐊᓕᕐᓂᖏᑦ ᐆᒪᔪᐃᑦ ᑲᓇᑕᒥ,*

ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᓐᓄᑦ, ᐅᓂᒃᑳᖅᑕᐅᓪᓗᑎᒃ ᐊᑐᓕᖅᑎᑕᐅᕙᒃᓴᓕᐊᕆᔭᐅᔪᒪᓂᖏᑦ ᑐᒃᑐᓕᕆᓂᕐᒧᑦ (ᓇᐹᖅᑐᖃᖏᓐᓂᖁ, ᕿᙵᐅᒻᒥᓗ ᑭᓪᓕᓂᖁᓗ ᕿᑎᖅᒥᐅᓂ ᐊᒻᒪᓗ ᖁᑯᖅᑐᓂᒃ ᒥᑭᔫᑎᐅᓂᖅᓴᓂ ᖁᑦᑎᒃᑐᒥ ᐅᑭᐅᖅᑕᖅᑐᒥ ᑐᒃᑐᖏᓐᓂᒃ). ᐅᖃᐅᔾᔭᐅᕆᐊᕈᒪᓂᐊᖅᑐᒍᑦ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᓐᓄᑦ ᖃᓄᖅ ᐃᓚᐅᑎᑦᑎᔪᓐᓇᕐᓂᖅ ᐊᒻᒪᓗ ᐱᓕᕆᖃᑎᖃᑦᑎᐊᕈᓐᓇᕐᓂᖅ ᓄᓇᕗᒻᒥᐅᓂᒃ, ᓯᕗᓪᓗᐊᒃᐸᓪᓕᐊᓗᑕ.

ᖃᓄᖅ ᐱᕙᓪᓕᐊᓯᒪᖕᒫᑦ:

- ᑕᐃᒃᑯᐊ ᑲᓇᑕᓕᒫᒧᑦ, ᑲᓇᑕᐅᑉ ᐊᕕᒃᑐᖅᓯᓂᖏᓐᓂ ᓂᒋᖁ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᖅᐸᓯᐅᓂᖓᓂ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ FPT-ᑯᑦ ᒥᓂᔅᑕᐃᑦ ᑐᙱᓕᙱᑦ ᓴᐳᓐᓂᐊᖅᑐᓕᕆᓂᕐᒧᑦ, ᐆᒪᔪᓕᕆᓂᕐᒧᑦ, ᐊᔾᔨᖏᙱᑦᑑᑎᐅᔪᓂᓪᓗ ᐆᒪᔪᓕᕆᔨᓂᕐᒧᑦ ᐊᙱᖃᑎᒌᒋᐅᖅᑐᑦ ᑕᒪᐃᓐᓂᒃ ᑲᓇᑕᓕᒫᒥ ᐱᐅᓯᖃᕐᑯᔨᓂᖅ ᐊᓯᔨᖅᑕᐅᕚᓕᐊᔪᓇᕐᓂᖏᓐᓄᑦ ᓴᐳᓐᓂᐊᕈᑕᐅᕙᒃᑐᑦ ᐊᒥᕐᔫᙱᓗᐊᓕᖅᑐᑦ ᐆᒪᔪᐃᑦ, ᑕᐃᔅᓯᒪᓂ ᑎᓯᐱᕆ 2018-ᖑᑎᓪᓗᒍ. ᑕᒪᐃᓐᓂᒃ ᑲᓇᑕᒥ ᐊᓯᔨᖅᑕᐅᓂᖏᑦ ᓴᐳᓐᓂᐊᕈᑕᐅᕙᒃᑐᑦ ᐊᒥᕐᔫᙱᓗᐊᓕᖅᑐᓂᒃ ᐆᒪᔪᓂᒃ ᐱᓂᐊᕈᑕᐅᒃᑲᓐᓂᕐᒪᑕ ᓴᐳᓐᓂᐊᖃᑕᕈᒪᓂᖅ ᐆᒪᔪᓂᒃ ᐊᒻᒪᓗ ᓇᓗᓇᐃᒃᑯᑕᐅᓂᐊᕐᒪᑕ ᑲᑐᔾᔨᖃᑎᒌᑦᑎᐊᕆᐊᖃᕐᓂᖏᓐᓂᒃ ᐃᓕᑕᕆᔭᐅᓗᑎᒃ ᑕᒪᐃᓄᑦ ᓯᕗᓕᐅᖅᑎᐅᖃᕐᕕᐅᓂᖏᐃᑦ ᑲᓇᑕᒥᓕᒫᒥ, ᑲᓇᑕᐅᑉ ᐊᕕᒃᑐᖅᓯᒪᓂᖏᓐᓂ ᖃᓪᓗᓈᑦ ᓄᓇᕐᑯᑎᖏᓐᓂ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᖁᐅᑕᐃᑦ ᐃᓄᕐᑯᑎᖏᓐᓂ.
- ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑎᑦ PCA ᐃᓕᑕᖅᓯᓯᒪᓂᐊᖅᑐᑦ ᑕᒪᐃᓄᑦ ᓯᕗᓪᓕᖅᐸᐅᔭᐅᕐᑯᔭᐅᓯᒪᔪᓂᒃ ᖃᓄᐃᓕᐅᕈᑕᐅᓂᐊᖅᑐᓂᒃ ᐊᒻᒪᓗ ᑐᑮᙵᓗᐊᖅᑐᑦ ᓴᖏᓂᖅᓴᐅᓕᖅᑎᑦᑎᔪᒪᓂᖅ ᐃᓚᒌᓕᕈᓐᓇᕐᓂᖏᓐᓂᒃ ᐱᓕᕆᖃᑎᒌᖕᓂᕐᒧᑦ, ᐱᐅᓯᕆᐊᖅᑕᐅᓗᑎᓪᓗ ᓴᕿᑎᑦᑎᖃᑦᑕᕈᓐᓇᕐᓂᖏᑦ ᐃᓱᒪᓕᐅᕈᑕᐅᓂᐊᖅᑐᓄᑦ ᑐᙵᕕᐅᔪᓐᓇᖅᑐᑦ ᐊᒻᒪᓗ ᑐᑭᓕᐅᕈᑕᐅᖃᑦᑐᒍᑎᒃ ᐱᓕᕆᐊᖑᓯᒪᓂᖏᓐᓂᒃ.
- ᐊᑕᐅᓯᕐᒥᒃ, ᓇᓗᓇᐃᔭᐃᓗᑕᐅᕙᓂᐊᖅᑐᓂᒃ ᐃᓚᖃᖅᐳᖅ ᑖᒃᑯᐊ ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑏᑦ PCA ᑕᐃᒃᓂᖓ ᐃᓕᑕᕆᔭᐅᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᐃᒃᐱᒋᔭᐅᑦᑎᐊᖃᑕᓇᐊᖃᕐᓂᖏᓐᓂᒃ ᐃᓚᒋᔭᐅᓂᖏᑦ ᓄᓇᓕᑐᖃᐃᑦ ᐃᓄᐃᑦ, ᓴᐳᓐᓂᐊᖅᑕᐅᕙᖕᓂᖏᓐᓄᑦ ᐆᒪᔪᐃᑦ ᐊᒥᔫᖏᓗᐊᓕᖅᑐᑦ ᐊᒻᒪᓗ ᐆᒪᔪᓕᕆᕙᖕᓂᖁᒃ ᐊᔾᔨᖏᙱᑦᑑᑎᐅᔪᓂᒃ ᓂᕈᓘᓐᓇᖅᑕᐅᓂᖅᓴᐅᕆᐊᖅᓯᒪᓗᑎᒃ. ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑏᑦ ᑐᕌᖓᕗᑦ ᐊᔪᕐᓯᓇᖅᑎᑦᑎᓂᖅᓴᐅᔪᒪᓂᖅ ᓄᓇᓕᖕᓄᑦ-ᐊᐅᓚᑕᐅᔪᓂᒃ ᓄᓇᖏᓐᓂ, ᐸᕿᔨᐅᓂᖏᓐᓂᒃ ᑲᒪᔨᐅᓂᖏᓐᓂᒃ ᐸᕐᓇᐅᑎᖃᕐᓂᖏᓐᓂᒃ ᐊᒻᒪᓗ ᖃᓄᐃᓕᐅᕐᑯᔨᖏᓐᓂᒃ.

- ᐱᖓᓲᔪᖅᑐᑦ 6-ᖑᔪᑦ "ᓯᕗᓪᓕᐅᑎᑕᐅᓂᖏᑦ" ᐆᒪᔪᐃᑦ ᐃᓕᑕᕆᔭᐅᖕᒐᓚᐅᖅᑐᑦ ᐊᑖᒍᑦ ᑕᒪᑐᒪ ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔫᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑎᒎᑦ, ᑕᒪᐃᓐᓄᑦ ᑲᒪᖏᔭᐅᓗᑎᒃ ᐃᓚᒌᖕᓂᐊᖅᑐᓄᑦ: ᓇᐹᖅᑐᖃᖏᑦᑐᕐᒥᐅᑦ ᑐᒃᑐᐃᑦ, (ᐃᓚᒋᔭᐅᓗᑎᒃ ᑐᒃᑐᐃᑦ ᐃᓗᐃᓪᓕᕐᒥ ᑭᓪᓕᕐᓂᕐᒥᓗ ᕿᑎᖅᒥᐅᓂ, ᓂᒋᖅᐸᓯᐅᓂᕐᒥᓗ ᖃᖃᒥᓲᑦ ᑐᒃᑐᐃᑦ, ᑕᐃᒃᑯᐊᓗ ᑲᓇᑕᐅᒥ ᐅᐊᓕᓂᖅᐸᓯᖕᒥ ᐊᕿᕿᒌᑦ (Greater Sage-grouse) ᐊᒻᒪᓗ ᐅᒥᖕᒪᐅᔭᐃᑦ ᐊᓪᓚᐃᑦ ᓄᓇᖏᓃᓲᑐᖃᐃᑦ.
- ᒪᕿᒃ ᑖᒃᑯᓇᖓᑦ ᐱᖓᓲᔪᖅᑐᓂᒃ 6-ᖑᔪᓂᒃ ᐆᒪᔪᐃᑦ ᐅᖃᐅᓯᐅᔪᑦ ᓄᓇᕗᒻᒥᐅᑕᐅᕗᑦ; ᖃᑯᒃᑐᖅᑐᑦ ᖁᑦᑎᒃᑐᒥ ᑐᒃᑐᐃᑦ ᐊᒻᒪᓗ ᓇᐹᖅᑐᖃᖏᑦᑐᕐᒥᐅᑦ ᑐᒃᑐᐃᑦ (ᑕᐃᒃᑯᐊᓗ ᓇᐹᖅᑐᓕᖕᒍᑦ ᑎᑭᖃᑦᑕᕐᒥᔪᑦ ᑐᒃᑐᐃᑦ ᐃᓗᐃᓕᕐᒥᒃ ᑭᓪᓕᓂᕐᒥᓗ ᕿᑎᖅᒥᐅᓂ).
- ᐅᓂᒃᑳᓕᐊᖑᓂᐊᖅᑐᑦ ᐱᔾᔪᑎᖃᖅᑐᑦ ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔫᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑏᑦ PCA, ᓯᕗᓪᓕᐅᑎᑕᐅᓂᖏᓐᓂ ᐆᒪᔪᐃᑦ ᖃᓄᐃᑦᑑᓂᖏᑦ ᐊᒻᒪᓗ ᐊᑐᓕᖅᑎᑕᐅᔪᒪᓂᖏᑦ ᖃᓄᐃᓕᐅᕈᑎᒃᓴᐃᑦ ᓯᕗᒧᑦ ᐅᓂᒃᑲᓕᐅᕈᑕᐅᓇᔭᖅᑐᑦ ᑕᒫᓂ ᐊᑯᓂᐅᓂᓕᖕᒥ 15 ᒥᓂᑦᓯᓂᒃ.

ᒫᓐᓇᐅᔪᖅ ᖃᓄᐃᓕᖓᓂᖏᑦ

- ᓯᕗᓪᓕᕐᒥ ᑲᔪᓯᑎᐊᕈᑕᐅᓂᐊᖅᑐᓂᑦ ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔫᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑕᐅᓂᕐᒧᑦ, ᑖᒫᓂ ᔫᓐ 19-ᖑᑎᓪᓗᒍ, ᑲᓇᑕᒥ, ᑲᓇᑕᐅᑉ ᐊᕙᒃᑐᖅᓯᓂᖏᓐᓂ ᓂᒋᕐᒥ ᐊᒻᒪᓗ ᐅᑭᐅᖅᑕᖅᑐᖅᐸᓯᐅᓂᖓᓂ ᐊᕙᒃᑐᖅᓯᒪᓂᖏᓐᓂ FPT-ᑯᑦ ᒥᓂᔅᑕᐃᑦ ᑐᖏᓕᖏᑦ ᑕᐃᓐᓇᓗ ᐃᓚᐅᒋᔭᐅᓚᐅᖅᓯᓂ ᔨᒥ ᓅᐳᓪ, ᓄᑲᖅᓯ, ᐊᖏᖃᑎᒌᓚᐅᖅᑐᑦ ᐱᓕᕆᖃᑎᒌᒍᓐᓇᕐᓂᖅ "ᐸᕐᓇᐃᓂᕐᒥᒃ ᐱᓕᕆᐊᖃᕐᓂ" ᑕᐃᒃᑯᓂᖓ ᐱᔾᔪᑎᖃᕐᓂᖅ ᐱᖓᓲᔪᖅᑐᓂᒃ 6-ᖑᔪᓂᒃ ᓯᕗᓪᓕᐅᑎᑕᐅᓂᐊᖅᑐᓂᒃ ᐆᒪᔪᓕᕆᓂᕐᒥᒃ. ᐸᕐᓇᐅᓂᖅ ᐱᓕᕆᐊᖑᓂᐊᖅᑐᓂᒃ ᐃᓚᖃᕐᓂᐊᖅᑐᑦ ᓇᓗᓇᐃᔭᖅᑕᐅᓂᖏᓐᓂᒃ ᖃᐅᔨᒪᔭᐅᖏᓗᐊᖅᑐᑦ ᐊᒻᒪᓗ ᓯᕗᓪᓕᖅᐸᐅᔾᔭᐅᕐᑯᔭᐅᔪᑦ ᐃᓱᒪᒋᔭᐅᓂᖏᓐᓂ ᑕᒪᐃᓂᒃ ᐱᓕᕆᐊᖑᐊᓂᒃᑐᑦ ᐅᓪᓗᒥᒧᑦ, ᐊᒻᒪᓗ ᐃᓱᐊᓂ ᑐᕌᖓᓂᐊᖅᑐᓂᒃ ᑲᑐᔾᔨᖃᑎᒌᖕᓂᕐᒧᑦ ᓴᐳᓐᓂᐊᖅᑎᐅᓂᕐᒧᑦ ᖃᓄᐃᓕᐅᓚᖓᓂᕐᒧᑦ ᐸᕐᓇᐅᑎᓕᐊᕆᔭᐅᙱᓐᓂᐊᖅᑐᑦ.
- ᑕᕿᓂᖅ 7-ᖑᓯᒪᔪᓂ, ᑲᓇᑕᒥ ᐆᒪᔪᓕᕆᔨᒃᑯᑦ ᐱᓕᕆᖃᑎᖃᖅᓯᒪᔪᑦ ᐃᓚᒥᓂᒃ ᑲᓇᑕᒥ, ᑲᓇᑕᐅᑉ ᐊᕙᒃᑐᖅᓯᒪᓂᖏᓐᓂ ᐅᑭᐅᖅᑕᖅᑑᑉ ᐊᕙᒃᑐᖅᓯᒪᓂᖏᓐᓂ ᓚᕙᒪᓂᒃ ᐱᒋᐊᖅᑎᑦᑎᕙᓪᓕᐊᓂᕐᒧᑦ, ᑐᑭᓯᔭᐅᕙᓪᓕᐊᓗᑎᒃ ᖃᓄᐃᓕᐅᕈᑕᐅᔭᕆᐊᓖᑦ ᓴᐳᓐᓂᐊᕈᑎᒃᓴᐃᑦ (ᓲᕐᓗ ᐆᒪᔪᐃᑦ ᓇᐅᑦᑎᖅᑐᖅᑕᐅᕙᓪᓕᐊᖏᓐᓇᕐᓂᖏᑦ, ᓇᔪᒐᕆᔭᐅᕙᒃᑐᑐᖃᐃᑦ ᐱᐅᓯᑐᖃᖏᓐᓄᑦ ᐅᑎᖅᑎᑕᐅᕙᓪᓕᐊᓂᖏᑦ, ᓇᔪᒐᕆᔭᐅᕙᒃᑐᑦ ᖃᐅᔨᓴᖅᑕᐅᖃᑦᑕᐃᓐᓇᕐᓂᖏᑦ) ᐸᕐᓇᐅᑕᐅᓂᖏᓐᓂ ᐅᕝᕙᓗᓐᓃᑦ ᑲᒪᒋᔭᐅᕙᓪᓕᐊᓕᖅᑐᓂ ᐊᑐᓂ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᑎᑭᓪᓗᒍ ᑕᐃᑯᖓ ᐊᕐᕌᒍᒧᑦ 2030-ᒧᑦ.
- ᑭᖑᓂᐊᒍᑦ ᐃᓕᑕᕆᔭᐅᔭᕆᐊᖃᕐᓂᐊᖅᑐᑦ ᓯᕗᓪᓕᖅᐸᐅᔾᔭᐅᔪᒪᒧᑦ ᑕᐃᒫᒃ ᐅᖃᐅᓯᒃᓴᕆᔭᐅᓯᒪᔪᑦ ᐊᒻᒪᓗ ᑐᓴᖅᑕᐅᕐᑯᔭᐅᔪᑦ ᐃᓄᖕᓂᒃ ᐃᓚᒋᔭᐅᓂᐊᕐᒪᑕ. ᐃᓚᐃᓪᓚᕆᐊᖃᕐᓂᐊᖅᑐᑦ ᓄᓇᓕᑐᖃᐃᑦ, ᑕᒪᒃᑭᑦᑎᐊᖅᑐᓂᒃ ᑐᑭᓯᐅᒪᔪᐃᓐᓇᓂᐊᕐᒪᑕ ᐱᓕᕆᐊᖑᕙᓪᓕᐊᓂᐊᓕᖅᑐᓂ ᑲᓇᑕᓕᒫᒥ ᓇᓂᑐᐃᓐᓇᖅ; ᐊᒻᒪᓗ ᐅᔾᔨᖅᑐᑦᑎᐊᕐᓂᐊᕐᓂᕐᒧᑦ ᐊᑑᑎᖃᑦᑎᐊᕐᓂᖅᓴᐅᔫᓐᓇᖅᑐᓂᒃ ᓴᐳᓐᓂᐊᕈᑎᒃᓴᖃᕐᓂᐊᕐᒪᑕ ᓯᕗᒧᑦ.
- ᑕᒪᕐᒥᒃ ᐱᓕᕆᐊᒃᓴᐃᑦ ᑲᒪᒋᔭᐅᔪᑦ ᑕᐃᒃᑯᓄᖓ ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔫᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑏᑦ PCA, ᐊᑐᕐᓂᐊᖅᑐᑦ ᑕᐃᒫᒃ ᐃᒃᐱᒋᔭᐅᑦᑎᐊᕐᓗᑎᒃ ᖃᓄᐃᓕᐅᖅᑎᐅᑎᑕᐅᓂᖏᑦ ᐊᒻᒪᓗ ᑲᒪᔨᐅᑎᑕᐅᓂᖏᑦ ᓄᓇᕗᒻᒥ ᓄᓇᑖᕈᑎᑦ ᐊᖏᕈᑎᐊᒍᑦ, ᐃᓕᑕᕆᔭᐅᓗᑎᒡᓗ ᐱᒻᒪᕆᐅᔪᒥᒃ ᐱᓕᕆᔨᐅᖃᑕᐅᓂᖏᑦ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᒃᑯᑦ, ᐆᒪᔪᓕᕆᓂᕐᒥᒃ ᐊᐅᓚᑦᑎᔨᐅᓂᕐᒥᒃ.

ᑎᑎᕋᖅᑕᐅᔪᑦ ᐅᒧᖓ:

ᑯᐊᕆ ᑖᑦ, ᐆᒪᔪᓕᕆᔨ, ᑲᓇᑕᓕᒥ. ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔫᒃᓴᐃᑦ ᓴᐳᓐᓂᐊᕈᑎᑦ PCA ᐊᑐᓕᖅᑎᑕᐅᓂᖏᓐᓄᑦ ᓯᕗᓪᓕᐅᑎᑦᑎᓂᕐᒧᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐃᖃᓇᐃᔭᕐᕕᒃ, ᑲᓇᑕᒥ ᐆᒫᔪᓕᕆᔨᓂ
Cory.Toth@canada.ca

ᕓᒃᑐᐊᕆᔭ ᓯᓇᐃᐳᓪ, ᐊᖓᔪᖄᕆᔭᐅᑲᐃᓐᓇᖅᑐᖅ ᐅᖃᐅᔾᔨᐊᖅᑎᐅᓂᕐᒧᑦ, ᑲᓇᑕᓕᒫᒥ ᐊᑐᖅᑕᐅᔪᒃᓴᐃᑦ
ᓴᐳᓐᓂᐊᕈᑎᑦ PCA ᐊᑐᓕᖅᑎᑕᐅᓂᖏᓐᓄᑦ,
ᓯᕗᓪᓕᐅᑎᑦᑎᓂᕐᒧᑦ ᐆᒪᔪᓕᕆᓂᕐᒧᑦ ᐃᖃᓇᐃᔭᕐᕕᒃ, ᑲᓇᑕᒥ ᐅᒫᔪᓕᕆᔨᓂ
ᐊᑐᓕᖅᑎᑕᐅᓂᖏᓐᓄᑦ
Victoria.Snable@canada.ca

ᐅᓪᓗᒥ

[placeholder]

ᐊᑐᓕᕐᑕᐅᑎᑦᓯᓂᖅ ᑲᓇᑕᒥᐅᓕᒫᓄᐊᖓᔪᒥᒃ ᐱᓕᕆᒍᓯᒃᓴᒥᒃ ᑲᓇᑕᒥ ᓯᕗᓪᓕᐅᔾᔭᐅᕐᑯᔭᐅᔪᓄᑦ ᐆᒪᔪᑦ ᒥᒃᓴᓄᑦ

ᓄᓇᕗᒻᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᑦ ᑲᑎᒪᔩᖏᑕ ᑲᑎᒪᓂᕋᕐᑕᖏᑦ
ᓯᑎᐱᕆ, 2020

ᕿᒃᑐᐊᕆᔭ ᓯᓇᐃᐳᓪ / ᑯᐊᓇ ᑖᑦ
ᓯᕗᓪᓕᐅᔾᔭᐅᕐᑯᔭᐅᔪᓂᒃ ᐆᒪᔪᓂᒃ ᐱᓕᕆᕝᕕᒃ
ᑲᓇᑕᒥ ᐆᒪᔪᓕᕆᔨᕐᔪᐊᑦ

Environment and Climate Change Canada
Environnement et Changement climatique Canada

Canada

ᐃᓗᐊᓃᑦᑐᑦ

- ᓴᐳᒻᒥᒐᓱᐊᕐᓂᖅ ᐆᒪᔪᓂᒃ ᓄᖑᓐᓂᐅᓴᕐᑐᕆᓴᐅᔪᓂᒃ ᑲᓇᑕᓕᒫᒥ ᐱᑐᐃᓐᓇᐅᖏᓪᓚᖅ, ᐊᒻᒪ ᐊᕐᕌᒍᑕᒫᑦ ᐆᒪᔪᑦ ᐃᓕᓴᐅᕙᒻᒪᑕ ᐆᒪᔪᓄᑦ ᓄᖑᓐᓂᐅᓴᕐᑐᕆᓴᐅᔪᓄᑦ ᐱᕐᑯᓯᑎᒍᑦ ᐅᓄᕐᓯᕙᓪᓕᐊᑐᐃᓐᓇᕐᒪᑕ
- **ᐱᓕᕆᕐᑲᑎᒌᓐᓂᒃᑯᑦ, ᐊᔾᔨᒌᖏᑦᑐᓂᒃ ᐆᒪᔪᓂᒃ ᑲᒪᒋᔭᕐᑲᓂᐅᒐᔭᕐᑐᑦ ᓂᕆᐅᑎᔭᐅᒻᒪᑕ ᓴᖅᑭᑎᑦᓯᒍᑕᐅᒋᐊᖅ ᐱᐅᓂᕐᓴᓂᒃ ᓴᐳᒻᒥᐅᑎᒃᓴᓂᒃ**
- ᑕᒪᒃᑯᐊ ᑲᒪᒋᓂᐊᕐᐸᑕ, "ᑲᓇᑕᒥᐅᑕᓕᒫᓄᐊᖑᔪᑦ ᐱᓕᕆᔾᔪᓯᖅ ᓄᖑᓐᓂᐅᓴᕐᑐᕆᓴᐅᔪᓂᒃ ᐆᒪᔪᓂᒃ ᓴᐳᒻᒥᓂᕐᒧᑦ ᑲᓇᑕᒥ" ᐊᖏᕐᑲᑎᒌᒍᑕᐅᓯᒪᒻᒪᑦ ᒐᕙᒪᑐᕐᑲᒃᑯᓐᓄᑦ, ᐊᕕᑦᑐᕐᓯᒪᔪᑎᒍᓪᓗ ᒐᕙᒪᓄᑦ*, ᐊᒻᒪ ᐅᑭᐅᖅᑕᖅᑐᒥ ᒐᕙᒪᓄᑦ ᑎᓯᐱᕆ 2018,ᒍᑎᓪᓗᒍ.

*ᑯᐸᐃᒃ ᐊᑐᓕᖅᑎᑕᐅᑎᑦᓯᓲᔭᕐᑐᑦ ᐱᓕᕆᒍᓯᓂᒃ, ᑭᓯᐊᓂᑦᑕᐅᖅ ᐱᓇᓱᐊᕐᓗᑎᒃ ᐃᑲᔪᕆᐊᓪᓚᓂᒃᑯᑦ, ᐋᖅᑭᒃᓯᐃᓗᑎᓪᓗ ᓯᕗᓪᓕᐅᔭᐅᕐᑯᔭᐅᔪᓂᒃ ᐆᒪᔪᓄᑦ ᓄᖑᓐᓂᐅᓴᕐᑐᕆᓴᐅᔪᓄᑦ ᐅᓪᓗᒥ ᐱᓇᓱᒍᑎᖕᓴᓂᒃ

ᓯᕗᓪᓕᕐᒥ ᐱᓕᕆᐅᔾᔪᓯᐅᔾᒡ

ᐊᑕᐅᓯᐅᓕᖓᔪᑦ ᐆᒪᔪᑦ

ᐃᒻᒥᒃᑯᑦ ᐊᕐᓱᕈᕈᑕᐅᔪᑦ

ᕿᒥᕐᕈᓂᖅ/ᐸᕐᓇᐃᓂᖅ

ᐱᓕᕆᐊᒃᓴᓂᒃ ᓴᖅᑭᑎᕆᓂᖅ
ᑲᔪᓯᑎᑦᓯᓂᖅ

ᑲᓇᑕᓕᒫᒧᑦ ᐱᓕᕆᐅᔾᔪᓯᐅᔪᖅ

ᐊᔾᔨᒌᖏᑦᑐᑦ ᐆᒪᔪᑦ/ᐊᒃᑐᐊᖃᑎᒌᓐᓂᖏᑦ
ᓇᓂᓐᓂᖏᒍᑦ (ᒪᓕᓪᓗᒍ ᓈᒻᒪᓈᕐᓂᐊ)

ᑐᕌᖅᑕᐅᔪᑦ, ᐱᓕᕆᖃᑎᒌᓐᓂᒃᑯᑦ
ᐊᕐᓱᕈᕐᓂᒃᑯᑦ

ᐊᑐᓕᕐᑎᑕᐅᑎᑦᓯᕚᓪᓕᐊᓂᖅ

ᑲᑎᙵᑎᓪᓗᒋᑦ ᓴᖅᑭᑎᕆᓂᖅ,
ᐊᑐᓕᕐᑕᐅᑎᑦᓯᓂᖅ

ᑭᒐᕐᑐᕈᑕᐅᔪᑦ ᐊᓯᔾᔨᑐᐃᒻᒪᕆᓐᓂᒧᑦ ᐆᒪᔪᓂᒃ ᓴᐳᒻᒥᓂᕐᒧᑦ ᑐᕌᕐᑕᐅᒧᓂᒃ ᓱᒃᑲᓂᕐᓴᑯᑦ,
ᐋᖅᑭᒋᐊᕐᓂᒧᓪᓗ ᒥᐊᓂᕐᓯᓂᒃᑯᑦ, ᓴᓐᖏᓕᑎᑦᓯᒋᐊᕐᓂᕐᒧᑦ ᐱᓇᓱᖃᑎᒌᓐᓂᒥᒃ
ᓄᓇᖃᖅᑳᓯᒪᔪᓂᒃ, ᐊᒻᒪ ᑮᓇᐅᔭᓕᐅᕐᕈᓐᓇᓂᕐᒧᑦ ᐅᑎᒃᑐᑎᒃ

ᑲᓇᑕᓕᒫᒧᐊᖓᔪᒥᒃ ᐱᓕᕆᕈᓯᖅᑲᓂᖅ ᐊᒻᒪ ᓄᓇᖅᑲᖅᑳᖅᓯᒪᔪᑦ

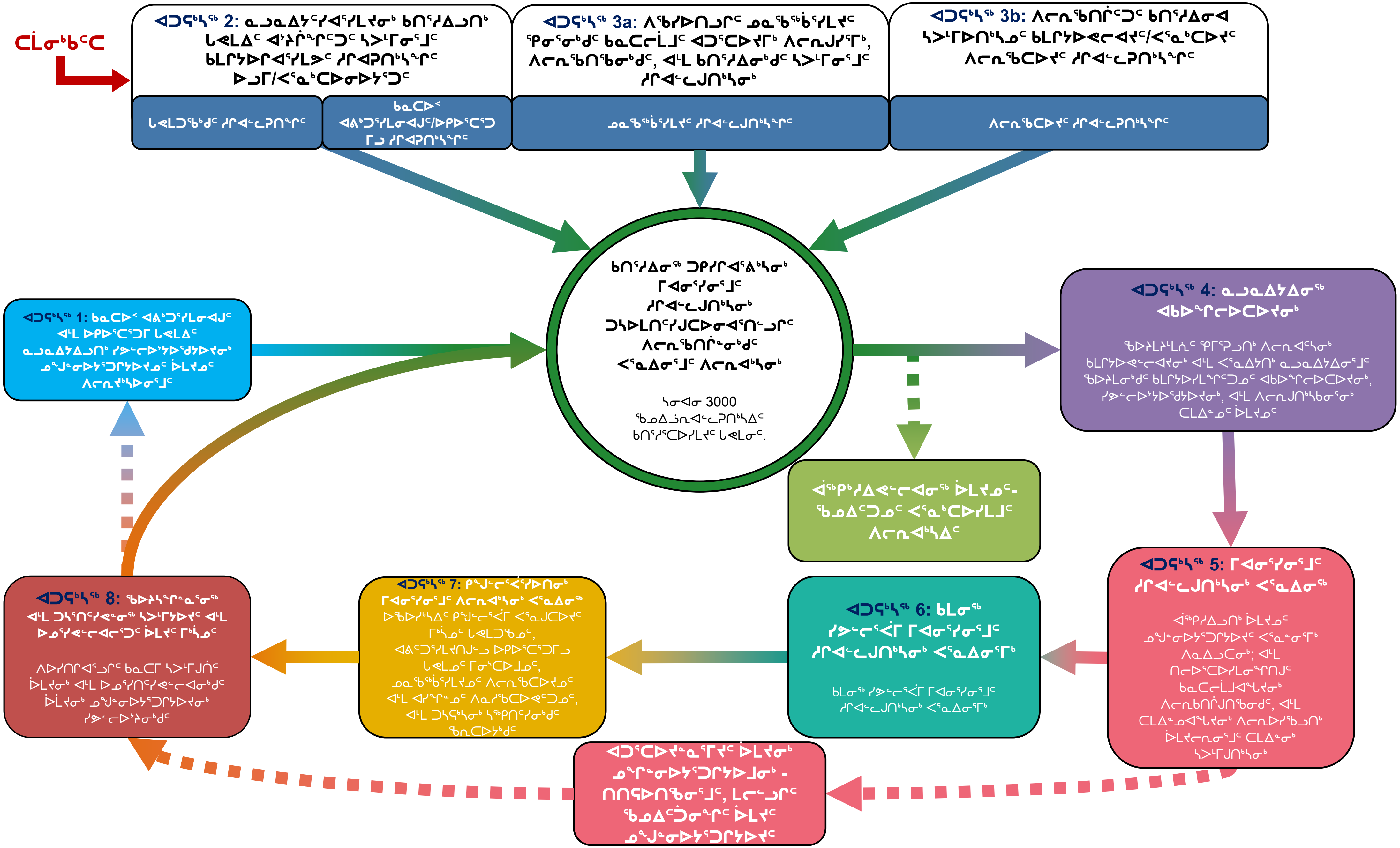
ᐱᓇᓱᖅᑲᑎᒌᓐᓂᖅ: ᑊᐊᑐᓕᖅᑕᐅᑎᖅᓯᓂᒃᑯᑦ ᑲᓇᑕᓕᒫᒧᐊᖓᒧᓂᒃ ᐱᓕᕆᐅᑎᒃᓴᓂᒃ ᑐᕌᖓᖅᑲᖅᑐᑎᒃ ᓄᑕᐅᓕᖅᑎᖅᓯᒋᐊᖅ ᐱᓇᓱᐊᑎᖅᑲᓂᖅᒥᒃ ᒐᔾᒪᓂᒃ ᐊᒻᒪ ᓄᓇᓕᑐᖅᑲᖕᓴᔾᓂᒃ ᑲᓇᑕᓕᒥ, ᓴᐃᒻᒪᖅᑲᑎᒌᑉᐸᓪᓕᐊᓂᒃᑯᑦ

ᐃᓗᐊᓃᖅᑐᑦ ᑐᕌᒃᓴᐃᖅ:

- ᐃᓕᑕᖅᓯᓂᒃᑯᑦ ᐊᒻᒪ ᐃᒃᐱᒍᓱᖅᓯᐊᓂᒃᑯᑦ ᓄᓇᖅᑲᖅᑳᑲᖅᓯᒪᔪᑦ ᖃᓄᐃᓘᕈᓐᓇᓂᖏᓐᓂᒃ ᒥᐊᓂᖅᓯᓂᖅᒧᑦ ᐆᒪᔪᓂᒃ ᐊᑦᑕᓇᖅᑐᒥᑦᑐᕆᔾᐅᔪᓂᒃ ᐊᒻᒪ ᐱᕈᖅᑐᓂᒃ;
- ᐱᓇᓱᖅᑲᑎᖅᑲᓂᖅ ᐋᑐᓕᖅᑎᑕᐅᑎᖅᓯᕙᓪᓕᐊᓂᒃᑯᑦ ᑲᓇᑕᓕᒫᒧᑦ ᐱᓕᕆᒍᓱᒃᑯᑦ;
- ᐸᖅᓇᒃᓯᒪᓂᖅᓴᐅᔪᑎᒃ ᓄᓇᖅᑲᖅᑳᖅᓯᒪᔪᓄᑦ ᑲᔪᓯᑎᑕᐅᔪᑦ ᐱᓕᕆᖅᑲᑎᒌᓐᓂᒃᑯᑦ ᐸᖅᓇᐃᓂᖅᒧᑦ ᐊᒻᒪ ᓱᒋᐊᓪᓚᒍᑎᒃᓴᓄᐊᖓᔪᓂᒃ.

*** ᑐᓐᖓᕕᖕᓴᐃᑦ ᐆᒪᔪᓕᕆᓂᖅᒧᑦ ᒥᐊᓂᖅᓯᓂᖅᒧᑦ ᐋᖅᑭᑦᑕᐅᓯᒪᔪᑦ ᒪᓕᒃᓱᒋᑦ ᐊᑐᐃᓐᓇᐆᑎᑕᐅᒧᑦ ᐊᒥᓱᓂᓪᓗ ᑐᓴᐅᒪᑎᖅᓯᓂᒃᑯᑦ ᑲᓇᑕᓕᒫᒧᑦ ᐱᓕᕆᐅᑎᖕᓴᓂᒃ. ᑕᐃᒪᐃᖕᒋᓪᒪᑕ ᑲᓇᑕᓕᒥ.*

ᐊᑐᓖᕐᑎᑕᐅᑎᑦᓯᓂᕐᒧᑦ ᑐᕌᒐᕆᔭᐅᔪᖅ



ᓄᐊᑦᓯᓂᖅ ᒥᐊᓂᕐᓯᓂᕐᒧᑦ ᐱᓕᕆᐊᒃᓴᓂᒃ

ᓱᕗᓪᓕᐅᑎᑕᐅᔪᕆᐊᖅᑲᖅᑐᑦ ᐆᒪᔪᓄᑦ

ᓇᓗᓇᐃᔾᔪᑎᑦ ᓱᕗᓪᓕᖅᐸᐅᑎᒋᐊᓖᑦ

ᐱᓕᕆᖃᑎᒌᓪᓗᑎᑦ ᐱᒋᐊᕐᓂᐊᕐᓂᕆᓂᐊᖅᑕᖏᓐᓂ ᐸᕐᓇᕐᓪᓗᑎᑦ

ᐊᑐᕈᓐᓇᕐᑎᐊᖅᑕᒥᓂᒃ ᐱᓗᑎᑦ ᐊᑐᓕᖅᑎᑦᑎᓗᑎᓪᓗ

ᖃᐅᔨᓴᖃᑦᑕᕐᓗᑎᑦ ᐅᓂᒃᑳᖃᑦᑕᕐᓗᑎᓪᓗ

ᖃᐅᔾᔭᐅᔪᓂᒃ ᐱᔭᕇᖅᑐᓂᒃ ᐃᑲᔫᑎᐅᓂᐊᖅᑐᓂᓪᓗ ᐱᐅᖅᓱᐊᖅᑎᐊᕐᓂᖅᓴᐅᓕᕈᓐᓇᕐᓗᑎᑦ ᓂᕐᔪᑎᓂᑦ ᓇᓗᓇᐃᖅᑕᐅᓯᒪᔪᓂᒃ ᐅᓗᕆᐊᓇᖅᑑᒥᒋᐊᓐᖏᓐᓂ ᐊᒥᓱᕈᖅᑎᑦᑎᐊᑲᓐᓂᕐᓱᐊᕐᓗᓂᓗ ᑲᒪᒋᔭᐅᓯᒪᔪᓂᑦ ᐱᓕᕆᖃᑎᒌᓐᓂᖅᓴᐅᓕᕐᓗᑎᑦ ᐆᒪᔪᓂᑦ ᐊᒻᒪᓗ ᐊᕙᑎᑦᑎᓐᓂ

- ᐊᔪᕐᓇᑲᓴᒻᒪ ᓇᓗᓇᐃᔭᐃᒋᐊᖅ ᖃ ᐅᔮᒪᖏᓪᓗᓂ ᑭᓇ ᐱᓕᕆᓂᐊᕐᒪᖔᑦ ᓱᓇᓂᒃ, ᐊᒻᒪ ᓇᓂ ᑲᒪᒋᓂᐊᕐᒪᖔᒋᑦ
  - ᑕᐃᓴᖏᓐᓃᑐᓂᒃ ᓴᐳᒻᒥᓂᕐᒧᑦ ᑲᒪᒻᒪᑕ ᑲᓇᑕᓕᒫᒥ ᒐᕙᒪᑐᐃᓐᓇᐅᖏᑦᑐᑦ, ᑭᓯᐊᓂᑦᑕᐅᖅ ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᐊᒻᒪ ᐊᓯᖏᑦ

ᓇᓗᓇᐃᔭᑦᓯᐊᓯᒪᔪᓂᒃ ᒥᐊᓂᕐᓯᓂᓕᒫᒧᑦ ᐸᕐᓇᑦᓯᒪᕗᑦ ᐊᒻᒪ ᑲᒪᕙᓪᓕᐊᓪᓗᑎᒃ ᑕᒪᐃᓐᓂᒃ ᓱᕗᓪᓕᐅᔭᐅᕐᑯᔭᐅᔪᓂᒃ ᐆᒪᔪᓂᒃ ᓄᖑᓐᓂᐅᔭᕐᑐᕆᔭᐅᔪᓂᒃ ᑲᒪᒍᑎᓕᐅᕐᓂᕐᒧᑦ ᐅᓄᕐᓯᑎᑦᓯᕙᓪᓕᐊᓂᕐᒧᑦ ᑲᓇᑕᓕᒫᒥ ᐆᒪᔪᓂᒃ

ᓱᕗᕐᓚᐅᔾᔭᐅᖁᔭᐅᕙᑦ ᐆᒪᕙᑦ ᓄᖑᓐᓂᐅᔭᕐᑐᕆᔭᐅᕙᑦ ᒥᐊᓂᕆᔭᕆᐊᖃᓂᖕᒋᓐᓄᑦ ᐱᓕᕆᐊᒃᓴᓂᒃ ᐸᕐᓇᐃᓂᖅ

ᑐᕐᑐᑐᐃᓐᓇᐃ*
(ᔫᑳᓐ, ᓄᓇᕗᑦ, ᓄᓇᑦᓯᐊᖅ, ᐋᓗᕐᑕ, ᓯᔅᑲᑦᓱᕗᐋᓐ, ᒫᓂᑑᐸ)
*ᐱᖃᓯᐅᑎᓗᒋᑦ ᑖᕙᓐ, Dolphin ᐊᒻᒪ ᐅᓄᕐᓂᖕᒋᑦ

ᐳᐊᕈᓐ, Boreal ᑐᑦᑐᐃᑦ
(ᔫᑳᓐ, ᓄᓇᑦᓯᐊᖅ, ᐱᓯ, ᐋᓗᕐᑕ, ᓯᔅᑲᑦᓱᕗᐋᓐ, ᒫᓂᑑᐸ, ᐋᓐᑎᐊᕆᐅ, ᑯᐸᐃᒃ, ᓂᐅᕙᐅᓐᓛᓐ)

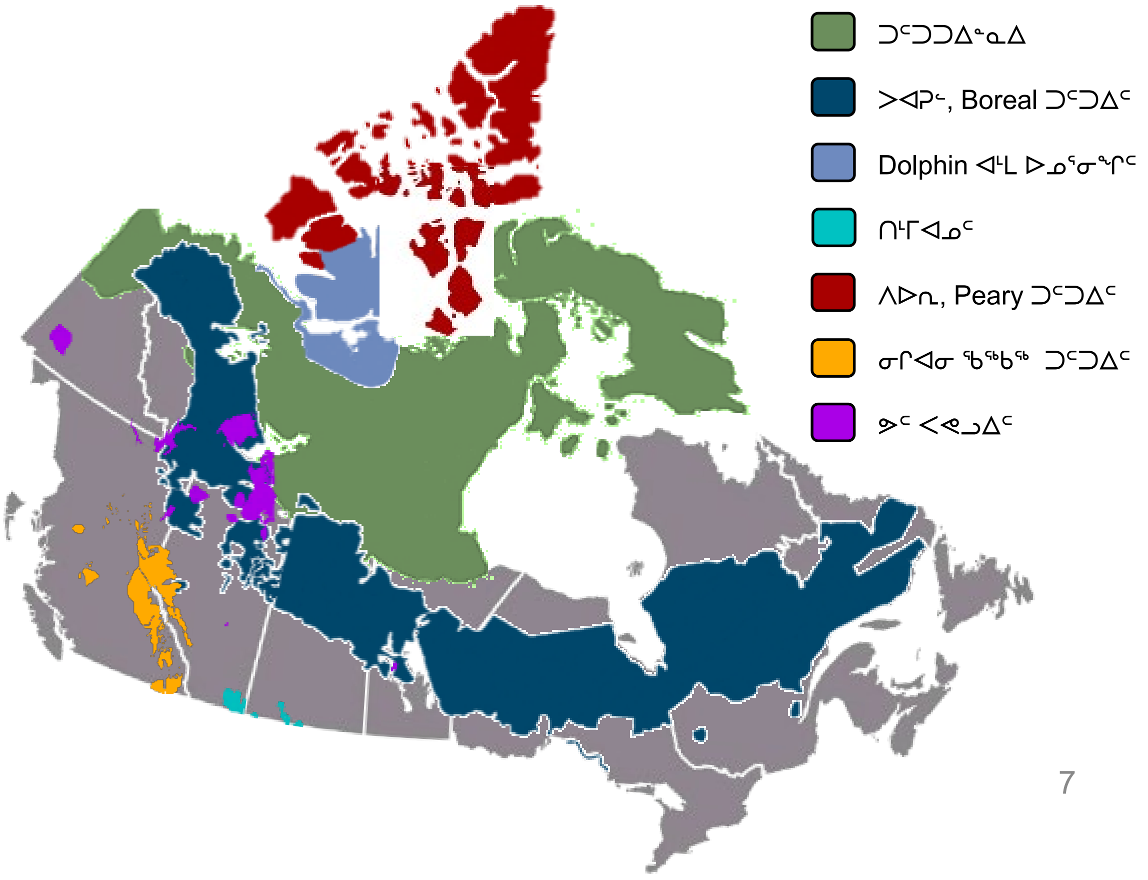
ᑎᒻᒥᐊᓄᑦ
(ᐋᓗᕐᑕ, ᓯᔅᑲᑦᓱᕗᐋᓐ)

ᐱᐅᕆ, Peary ᑐᑦᑐᐃᑦ
(ᓄᓇᑦᓯᐊᖅ, ᓄᓇᕗᑦ)

ᓂᕿᐊᓂ ᖃᖅᑲᖅ ᑐᑦᑐᐃᑦ
(ᐲᓯ, ᐋᓗᕐᑕ)

ᕗᑦ ᐸᕙᓗᐃᑦ
(ᔫᑳᓐ, ᓄᓇᑦᓯᐊᖅ, ᐲᓯ, ᐋᓗᕐᑕ, ᒫᓂᑑᐸ)

- ᑐᕌᕐᑕᒥᓂᒃ ᑲᔪᓯᑎᑦᓯᓗᑎᒃ ᐆᒪᔪᓄᑦ ᓄᖑᓐᓂᐅᔭᕐᑐᕆᔭᐅᔪᓄᑦ ᐅᓄᕐᓯᑎᒋᐊᕈᑎᓂᒃ
- ᐅᕐᑲᐅᓯᕐᑲᓗᑎᒃ ᐱᕝᕕᑦᓴᑦᓯᐊᕙᓐᓂᒃ ᒥᐊᓂᕐᓯᒍᑎᑦᓴᓂᒃ ᐊᒻᒪ ᐱᓕᕆᕐᑲᑎᒌᓐᓂᕐᒧᑦ, ᐊᒻᒪ ᐊᕐᓱᕈᕈᑎᓂᒃ ᐱᔪᑎᕐᑲᓗᑎᒃ
- ᑐᕇᒐᕐᑲᓗᑎᒃ aᐋᖅᑭᑦᓱᐃᒋᐊᖅ ᓱᕗᕐᓚᐅᔭᐅᖁᔭᐅᕙᓂᒃ, ᐊᑲᐅᓂᕐᓴᑯᑦ ᒥᐊᓂᕐᓯᒍᑎᒃᓴᓂᒃ, ᐊᒻᒪ ᐊᑲᐅᓯᑎᑦᓯᒋᐊᕐᓂᑯᑦ ᑐᓴᐅᒪᐅᑎᓂᕐᒥᒃ ᐊᒻᒪ ᐱᓇᓲᐊᕐᑲᑎᒌᑦᑐᓴᐅᓂᐊᓄᑦ



ᑲᔪᓯᒋᐊᓕᖅᓂᖅ ᓯᕗᒧᑦ

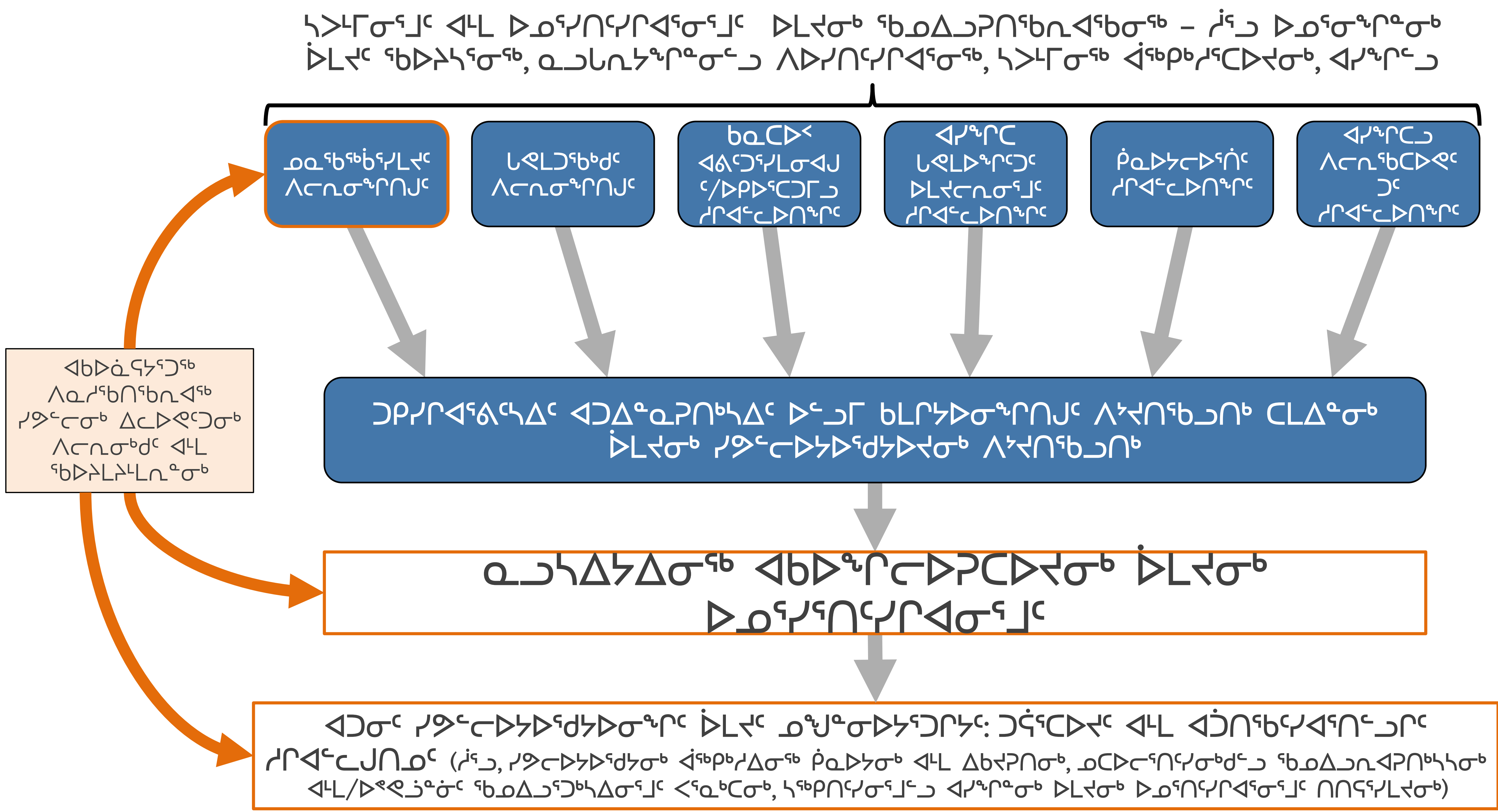
- ᐊᑐᓕᖅᑕᐅᖅᑯᓭᕗᒍᑦ ᐊᑖᓃᑦᑐᓂᒃ ᐊᑐᓕᖅᑕᐅᑎᑦᓯᓂᖅᒧᐊᙵᔪᓂᒃ ᑲᓇᑕᓕᒫᒧᐊᙵᔪᓂᒃ ᐱᓕᕆᓂᒃᑯᑦ ᐊᒻᒪ ᐃᓚᐅᑎᑦᓯᓂᒃᑯᑦ ᐅᖃᖃᑎᖃᓂᒃᑯᓪᓗ ᓄᓇᖃᖅᑳᖅᓯᒪᔪᓂᒃ
    1. ᐱᓇᓱᖃᑎᖃᐃᓐᓇᓂᒃᑯᑦ/ᑐᓴᐅᒪᖃᑎᒌᓐᓂᑯᓪᓗ ᐋᖅᑭᒃᓱᐃᕝᓕᐊᔪᓂᑎᒃ ᓯᕗᓪᓕᐅᔭᐅᖅᑯᔭᐅᔪᓂᒃ ᐆᒪᔫᓄᑦ ᓄᙳᓐᓂᐆᔭᖅᑐᕆᔭᐅᔪᓄᑦ ᐱᔾᔪᑎᖃᓗᑎᒃ ᐱᓕᕆᖃᑎᖃᓂᑯᑦ ᓄᓇᖃᖅᑳᓯᒪᒧᓂᒃ ᐊᒻᒪ ᐆᒪᔪᓕᕆᓂᖅᒧᑦ ᑲᑎᒪᔨᖅᔪᐊᓂᒃ
    2. ᐃᑲᔪᖅᓯᓂᒃᑯᑦ ᓱᒋᐊᓪᓚᒍᑎᑦᓴᓂᒃ ᒥᐊᓂᖅᓯᓂᖅᒧᑦ ᐆᒪᔪᓂᒃ ᓄᙳᓐᓂᐆᔭᖅᑐᕆᔭᐅᔪᓂᒃ ᐅᓪᓗᒥ ᖃᐅᔨᒪᔭᐅᙱᑐᐃᓐᓇᕆᐊᓕᓐᓄᑦ (ᐊᑐᖅᑐᓂ, ᐊᑐᕋᒃᓴᖅ 3)
    3. ᐃᑲᔪᖅᓂᒃᑯᑦ ᓇᓗᓇᐃᔭᐃᒋᐊᖅ ᒥᐊᓂᖅᓯᓂᖅᒧᑦ ᐊᑲᐅᙱᓕᐅᑕᐅᔪᓂᒃ ᐊᒻᒪ ᓯᕗᓪᓕᐅᔭᐆᔭᕆᐊᓕᓐᓄᑦ (ᐊᑐᖅᑐᓂ, ᐊᑐᕋᒃᓴᖅ 4)
    4. ᐱᓇᓱᖃᑎᒌᓐᓂᑯᑦ ᐋᖅᑭᒃᓱᐃᓗᑎᒃ ᒥᐊᓂᖅᓯᓂᖅᒧᑦ ᐸᖅᓇᒋᐊᓕᓐᓂᒃ (ᐊᑐᖅᑐᑦ, ᐊᑐᕋᒃᓴᖅ 6)
- ᓄᓇᕗᒻᒥ ᐅᒪᔪᓕᕆᓂᖅᒧᑦ ᑲᑎᒪᔨᖅᔪᐊᑦ ᐱᒻᒪᕆᐅᓂᖕᒋᑎᒍᑦ ᐱᓕᕆᖃᑕᐅᒋᐊᖅ ᐅᖃᐅᓯᐅᔪᓂᒃ ᖁᓛᓂ

ᑲᓇᑕᒥ ᐆᒪᔪᓕᕆᔫᕐᔪᐊᑦ ᑐᓵᕈᒪᑐᐃᓐᓇᕐᐳᑦ ᐅᖃᐅᓯᕆᔭᐅᔪᓂᒃ ᐱ'ᔪᑎᖃᓗᑎᒃ ᐊᑐᓕᕐᑕᐅᔪᒪᔪᓂᒃ ᐱᓕᕆᒍᓯᒃᓴᓂᒃ ᐊᒻᒪ ᐸᕐᓇᐃᓂᒃᑯᑦ

- ᐊᑐᕐᑕᐅᔪᒪᔪᖅ ᐱᓕᕆᔾᔪᓯᖅ;
- ᑐᒃᓯᒋᐊᕐᕕᒃᓴᐃᑦ ᑲᑎᕐᓱᕐᓯᒪᔪᑦ (ᐊᑐᕋᒃᓴᖅ 3);
- ᐱᓕᕆᖃᑎᒌᖕᒋᓐᓇᕐᓂᖅ

ᐊᐱᖅᑯᑎᒃᓴᖃᐹ?
Victoria.Snable@Canada.ca / Cory.Toth@Canada.ca

ᐅᐃᒍᐊᑭᓯᖅ


ᓴᐳᒻᒥᓂᕐᒧᑦ ᐊᒻᒪ ᐅᓄᕐᓯᑎᕐᓯᒥᐊᕐᓂᕐᒧᑦ ᐅᒪᔪᓂᒃ ᖃᓄᐃᓗᕈᑎᖃᕆᐊᖃᓂᖅ – ᓲᕐᓗ ᐅᓄᕐᓂᖕᒋᓐᓂᒃ
ᐆᒪᔪᑦ ᖃᐅᔨᓴᕐᓂᖅ, ᓇᓗᒐᕆᔭᕐᒋᓐᓂᖓᓄ ᐱᐅᓯᑎᕐᓯᒥᐊᕐᓂᖅ, ᓴᐳᒻᒥᓂᖅ ᐋᖅᑭᒃᓱᕐᑕᐅᔪᓂᒃ, ᐊᓯᖕᒋᖓᓄ
ᓄᓇᖃᖅᑳᕐᓯᒪᔪᑦ ᐱᓕᕆᓂᖕᒋᑎᒍᑦ
ᒐᕙᒪᑐᖃᒃᑯᑦ ᐱᓕᕆᓂᖕᒋᑎᒍᑦ
ᑲᓇᑕᐅᑉ ᐊᕕᖪᕐᓯᒪᓂᐊᒍ ᑉ/ᐅᑭᐅᕐᑕᑐᒥᓗ ᓱᒋᐊᖓᐅᑎᖕᒋᑦ
ᐊᓯᖕᒋᑕ ᒐᕙᒪᐅᖕᒋᑦᑐᑦ ᐅᒪᔪᓕᕆᓂᕐᒧᑦ ᓱᒋᐊᖓᐅᑎᖕᒋᑦ
ᕿᓇᐅᔭᓕᐅᕐᑏᑦ ᓱᒋᐊᖓᐅᑎᖕᒋᑦ
ᐊᓯᖕᒋᑕᓗ ᐱᓕᕆᖃᕐᑕᐅᕙᑦ ᑐᑦ ᓱᒋᐊᖓᐅᑎᖕᒋᑦ
ᑐᑭᓯᒋᐊᕐᕕᓴᐃᑦ ᐊᑐᐃᓐᓇᕈᑎᒃᓴᐃᑦ ᐅᖓᓯ ᑲᒪᒋᔭᐅᓂᖕᒋᑎᒍᑦ ᐱᔾᔪᑎᖃᕐᓗᑎᒃ ᑕᒪᐃᓐᓂᒃ
ᐆᒪᔪᓂᒃ ᓯᕗᓕᐅᔭᐅᕐᑯᔭᐅᔪᓂᒃ ᐱᔾᔪᑎᖃᕐᓗᑎᒃ
ᐊᑲᐅᓈᕋᔭᕐᑐᖅ ᐱᓇᓱᖃᑎᖃᕆᐊᖅ ᓯᕗᓪᓕᓂᒃ ᐃᓚᐅᕙᑦᑐᓂᒃ ᐱᓕᕆᓂᒃᑯᑦ ᐊᒻᒪ ᖃᐅᔨᒪᔾᒪᕆᓐᓂᒃ
ᓇᓗᓴᐃᔭᐃᓂᖅ ᐊᑲᐅᖕᒋᓕᐅᕈᑕᐅᔪᓂᒃ ᐆᒪᔪᓂᒃ ᐅᓄᕐᓯᕐᑎᕐᓯᒥᐊᓂᕐᒧᑦ
ᐊᑐᓂᑦ ᓯᕗᓪᓕᐅᔭᐅᕐᑯᔭᐅᓂᖕᒋᑦ ᐆᒪᔪᑦ ᓄᖑᓐᓂᐅᔭᕐᑐᒋᔾᔪ: ᑐᕌᕐᑕᐅᔪᑦ ᐊᒻᒪ ᐋᑐᑎᖃᓯᐊᕐᑎᓪᓗᒋᑦ
ᓱᒋᐊᓪᓚᒍᑎᓄᑦ (ᓲᕐᓗ, ᓯᕗᓕᐅᔭᐅᕐᑯᔭᓂᒃ ᐋᖅᑭᒃᓱᐃᓂᖅ ᕿᓇᐅᔭᓂᒃ ᐊᒻᒪ ᐃᑲᔪᕈᑎᓂᒃ, ᓄᑕᐅᓪᓕᕐᑎᓯᓂᒃᑯᓪᓗ ᖃᓄᐃᓗᓇᐊᕈᑎᒃᓴᓂᒃ
ᐊᒻᒪ/ᐅᕝᕙᓘᓐᓃᑦ ᖃᓄᐃᓗᕐᑐᒃᓴᐃᓂᕐᒧᑦ ᐸᕐᓇᒃᑕᓂᒃ, ᓴᖅᑭᑎᕐᓯᓂᕐᒧᓪᓗ ᐊᓯᖕᒋᓐᓂᒃ ᐅᒪᔪᓂᒃ ᐅᓄᕐᑎᕐᓯᒥᐊᕐᓂᕐᒧᑦ ᑎᑎᕋᕐᓯᒪᔪᓂᒃ)